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WHAT YOU'RE PLAYING LIVE AND WHY

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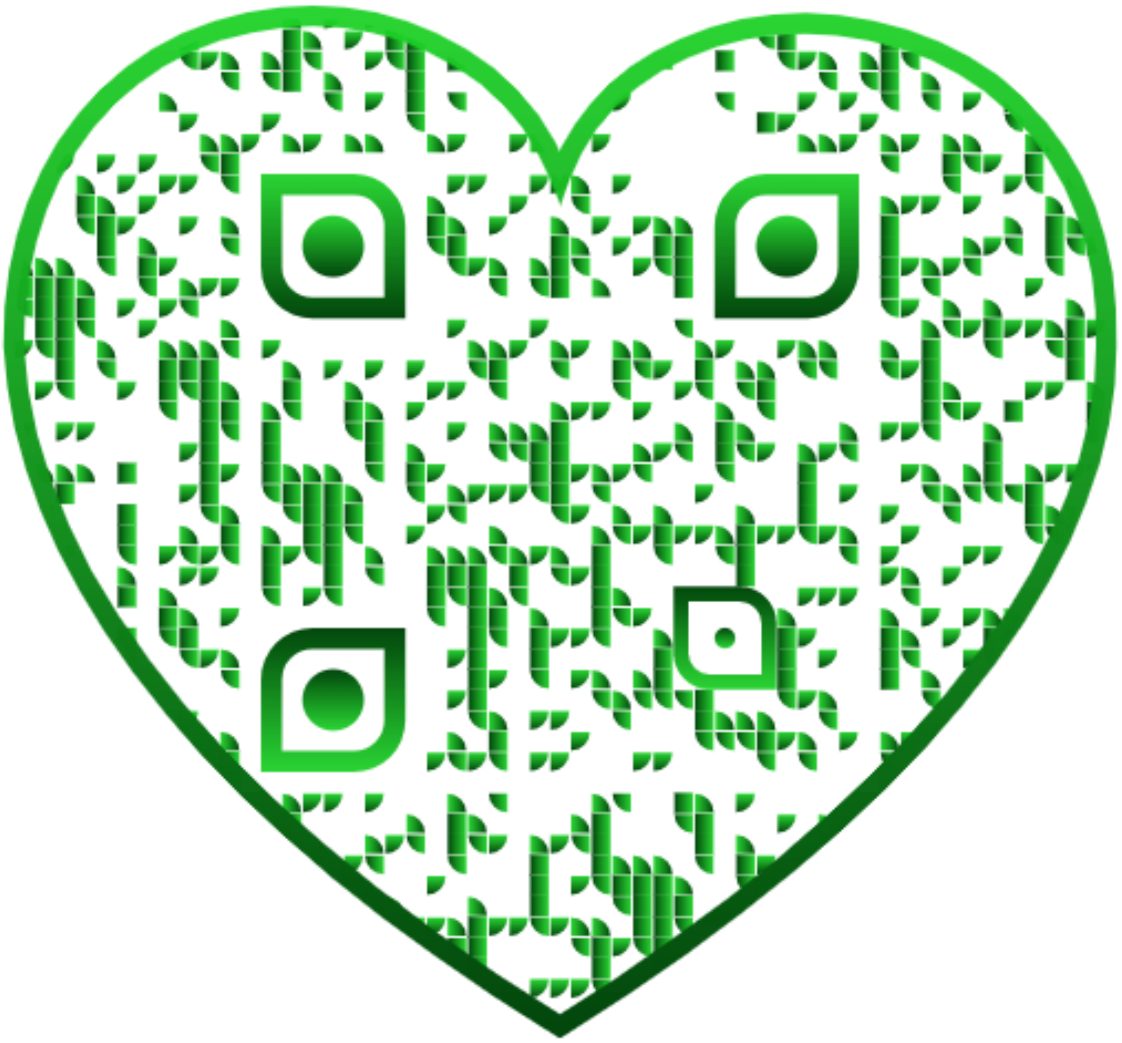

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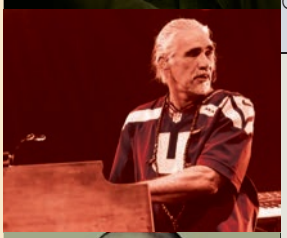
JUAN PATINO

14 **LEGENDS**
Best known as the keyboardist in Tom Petty and the Heartbreakers, **Benmont Tench** is loved and respected in all sectors of the music business for his tasteful playing that always serves the song. Finally, he strikes out as a leader with his first solo album, *You Should Be So Lucky*. We were so lucky as to get the story behind this long-awaited debut, straight from the man himself.



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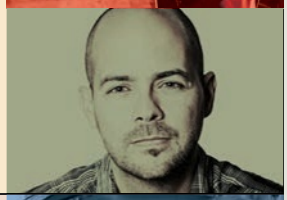

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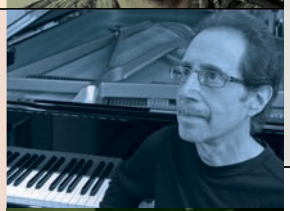

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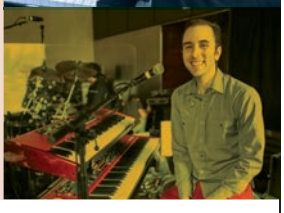

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Unprecedented quality and affordability of keyboard technology has made it a great time—at least gear-wise—to play keyboards as a pro, semi-pro, or weekend warrior. We polled the community of *Keyboard* readers and forum members to find out what you're playing and why, and examine the configurations of the modern one-, two-, and three-keyboard live setup.

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(Van Morrison, Sinead O'Connor, The Waterboys, Frank Zappa, Revolver)

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~ Al Schmitt

(Barbra Streisand, Madonna, Quincy Jones, Ray Charles)

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~ Ed Cherney

(The Rolling Stones, Bonnie Raitt, Jackson Browne, Eric Clapton)

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STAGE SKILLS · STUDIO SMARTS

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Editor's Note

My first real gig rig was a Korg Poly-800 above a Yamaha DX7 on a two-tier Invisible stand. Sometimes, I augmented it with a borrowed Crumar Organizer. Sponging up every drop of knowledge I could (from *Keyboard* magazine, where else?) I learned to program the daylights out of my synths, and eventually, I could make enough songs sound "like the record" that I became one of the go-to cover band keyboardists in the area, often gigging in venues I wasn't yet old enough to enter through the front door.

I've never stopped hearing from multi-keyboardists who came up along similar lines, and some variation on the theme of "bottom keyboard for meat and potatoes, top keyboard for orchestral and synthy stuff, and sometimes a cool third thing like a drawbar organ" has always seemed to define our live setups.

Keyboard technology hurtles along a trajectory of doing ever more for ever less. For example, the sonic ground a single Casio PX-5S covers for a cool grand would have run you at least double that money even ten short years ago. What effect has this had on the state of the modern gig rig? Are you bringing less gear because less does the job, or more because it's cheaper and lighter and you can afford to indulge yourself? This month, we find out in a special section sourced from the *Keyboard* community, beginning on page 38.

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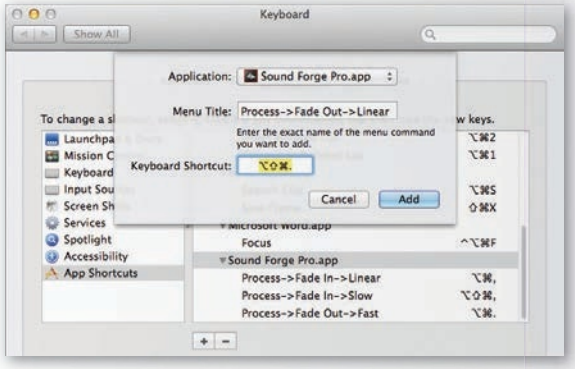


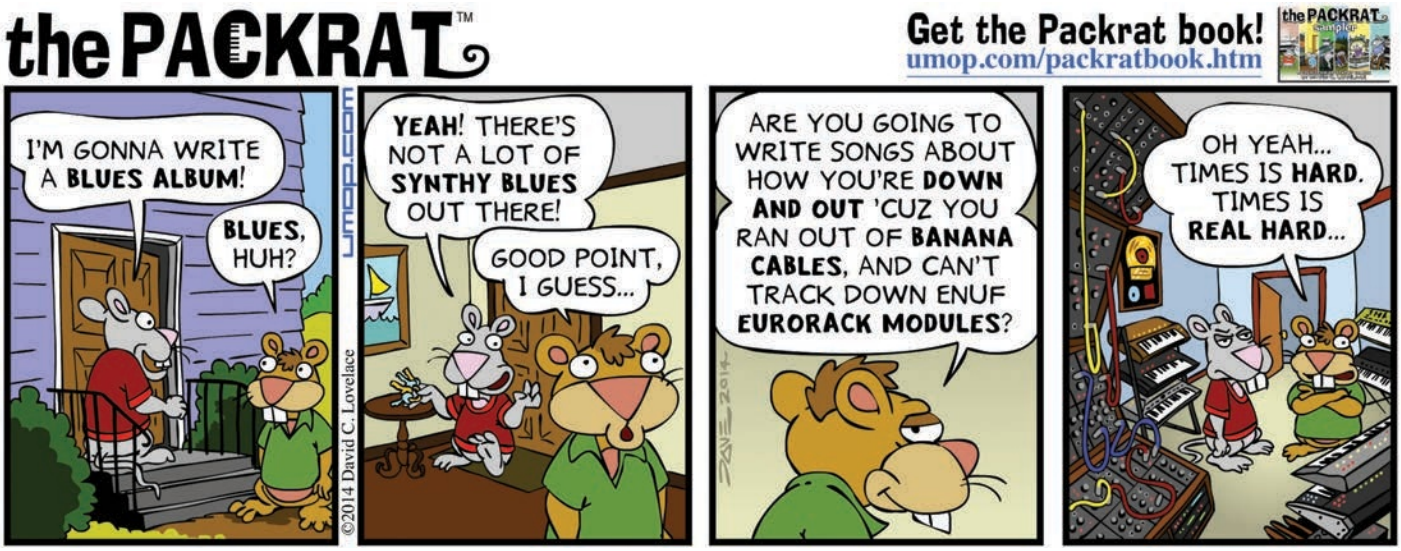
Key Secrets Secret Keys

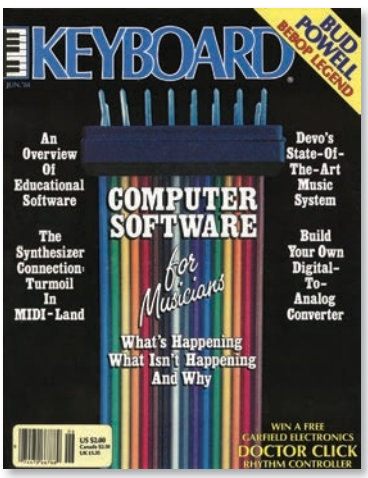
One of the best ways to get faster with software is to learn the keyboard shortcuts. That develops muscle memory for common commands, saving time, reducing wrist stress, and keeping you in the creative zone rather than scientist mode. But what if there's no shortcut for your favorite functions? On the Mac, you can assign custom key commands in the Keyboard module of System Preferences. Click Shortcuts, then App Shortcuts, then "+" to choose the app. Enter the exact name of the menu command. For apps like Sony SoundForge that have duplicate menu commands, enter the full path, with "->" between menu levels. David Battino

THE Keyboard POLL

Q: HOW MANY KEYBOARDS DO YOU TAKE TO THE GIG?

Polls rotate every two weeks, and can be found at the bottom of our homepage.





+ 30 YEARS AGO TODAY

Our June 1984 cover was devoted to the cutting-edge topic of **computer software for musicians**, including articles on educational apps and the adolescent growing pains of MIDI. Then, as now, we aim to please all kinds of keyboard players, so we profiled both **Devo**'s studio gear and bebop piano legend **Bud Powell**. The issue's single product review was of the **Siel DK-600**, an affordable six-voice polysynth. Those with loftier gear aspirations might have been drawn to our inside back cover, where **Oberheim** advertised the **Xpander**.

NEXT TECH »

GLOVES TAKEOFF

Electronic musician **Imogen Heap** is known for wanting audiences to see exactly how what she does onstage creates music in real time, as what a performer is up to behind a rack of synths can often be opaque. She's now heading up the development of **Mi.Mu**, a very sophisticated pair of controller gloves that can track hand and finger posture, acceleration, positional data, and much more, then translate it into MIDI or OSC messages. We'll be speaking with her soon about this and her new record *Sparks*; in the meantime, get more details at theglovesproject.com.

My First Star Duet, Kenneth Crouch

DANIEL BROOKMAN

Long before he began working with Marc Anthony, Eric Clapton, Lenny Kravitz, and Lauryn Hill, keyboardist and musical director Kenneth Crouch got his first taste of high-profile collaboration at age 17, with none other than Chick Corea.

"I was just getting into jazz at the time and my uncle Andraé was good friends with Chick," says Crouch. "Every year, Chick would have a Valentine's Day party at his house in the Hollywood Hills, and Andraé brought me along. Great players like Mike Garson would show up and everyone would get to perform one song."

That year, Andraé Crouch was asked to play an encore. Instead of presenting a second piece himself, he invited his nephew to take the stage. As Kenneth dove into "Body and Soul," Chick whispered in his ear, asking if he could jam along. "He had two Bösendorfers facing each other. I was at one, and he was at the other," says Crouch. "We ended up playing a duet."

The young pianist's dialogue with Corea caught the ear of Garson, who subsequently took Crouch on as a student. "Chick was a hero of mine and to get the chance to play with him was amazing," he says. "Even in my youth, he heard something in my vocabulary and what I was trying to say. I haven't played with Chick since then," he continues, laughing, "but that first duet was a huge validation for me." | Michael Gallant

NEW GEAR

BY GINO ROBAIR

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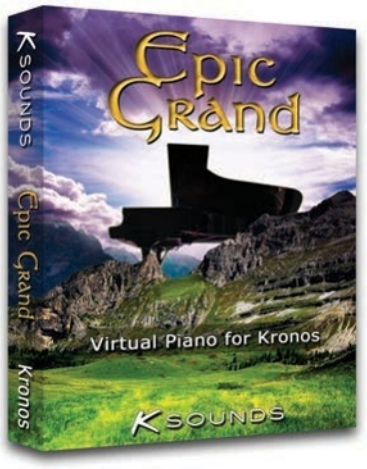

KAWAI MP7

WHAT Full stage piano with Kawai's best piano samples, editing, effects, the ability to record audio and MIDI, easy multitimbral setup, lots of great non-piano sounds, and a USB port for storage. **WHY** Offers uncompromising sound and action for the piano purist who needs a transportable instrument. **$2,199 | kawaius.com**

ARTURIA KEYLAB 88

WHAT Weighted MIDI controller with 16 pressure-sensitive pads, 13 endless rotaries, knobs, nine faders, and a removable laptop/iPad stand. Includes Analog Lab software. **WHY** It combines a full-sized, full-featured controller keyboard with Arturia's famously well curated models of vintage synths. **$TBA | arturia.com**

PHYSIS K4

WHAT Weighted hammer-action MIDI controller offering aftertouch and eight key zones. Multiple MIDI outs and USB ports. Optional expansion board adds physically modeled piano and other sounds. **WHY** A full-size and highly programmable controller for stage and studio. **$TBA | physispiano.com**

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JUAN PATIÑO

BENMONT TENCH

ROCK'S STORIED SIDEMAN FINALLY TAKES CENTER STAGE

BY
JON REGEN

"ONE THING I HOPE THE NEW record conveys is that people should *listen* to each other when they play," legendary keyboardist Benmont Tench tells me, seated behind a seven-foot Steinway grand piano in midtown Manhattan. "You can have amazing technique, but listening means knowing when not to use it."

From his signature piano and organ work with Tom Petty and the Heartbreakers to his accompanying artists like Bob Dylan, Johnny Cash, and the Rolling Stones, Tench's near-psychic sideman abilities have kept him on tour and in the studio for the better part of four decades.

After years of elevating other musicians' projects, Tench steps into the limelight with his debut solo album *You Should Be So Lucky*. Produced by Glyn Johns and featuring the contributions of such heavy hitters as Don Was, Gillian Welch, Tom Petty, Ryan Adams, and Ringo Starr, the album brims with an alluring blend of instrumental elegance and songwriting eloquence. We all knew Benmont could play the daylights out of anything with keys on it, but who knew he could write songs like *this*?

Days before the album's release, Tench sat down at New York's Steinway Hall to talk to *Keyboard* about his transition from keyboard journeyman to solo artist.

You've been playing with Tom Petty and the Heartbreakers since the 1970s, and with just about everyone else since then. What was it about *now* that felt right to make your first solo album?

Years ago, Glyn Johns said to me, "Why don't we do something together?" I was kind of intimidated—I thought he was just being nice. But about a year and half ago, I thought to myself, "Time's a-wasting, and I've got a lot of songs that I don't want to be lost on a cassette tape somewhere." I thought they were good songs, and some friends of mine—like [guitarists] Matt Sweeney and Blake Mills, and Sean and Sara Watkins—were all really encouraging. So I got the courage up to call Glyn and said, "Do you have time?" He made time and he made it happen. And he found the right recording studio in Sunset Sound. So I would have to say it was all Glyn.

Another place that this record comes from is the club Largo in Los Angeles. I sit in with [producer and multi-instrumentalist] Jon Brion a fair amount there, along with other friends of mine. I also play with Sean and Sara Watkins. We do a monthly show called the Watkins Family Hour there, with Sebastian Steinberg, Don Heffington, and Greg Leisz. Every now and then they'll say, "Ben, do a song." So playing at Largo also helped give me the confidence to dare do something like this.

Have you been writing songs on your own for a long time?

I just write when I feel like it. Years ago, I had a deal and I tried writing songs in Nashville for a while. It was instructive and I made a lot of good friends there. But in the end I realized that I just wasn't the guy with the skill, talent, or love to say, "Hey, let's come up with a song" every day. People who can do that have a real, serious gift.

So when something comes to you, you write it down?

Yeah. Usually the best ones are like that.

What is it about the way Glyn produces that drew you to him for the project?

I like the sound that he gets and the directness of his approach, musically. He doesn't get overly clever, but there *is* imagination. I really like the fact that he still records on tape and uses "tried and true" methods, many of which he developed himself. He's got a really musical ear and he has a great way of guiding a recording session without being overbearing or bossy. But he definitely guides it!

Can you give an example of how his direction changed a song in a way you weren't expecting?

There's a song on the album called "Like the Sun" that I wrote more on guitar than on piano. We were trying it with me playing rhythm guitar, but I couldn't quite communicate what was in my head. Glyn suddenly said, "I've got it!" He took the guitar away from me and had his son Ethan play an arpeggiated pattern on 12-string guitar. Then we discussed some records we both liked, and he had me sing the song. Later I put keyboards on it. So I had absolutely nothing to do with the way that song was arranged.

The new album shows serious attention to *space*. It's not over-dense with tracks. . . .

The records that I like the most sound like that. So while I admire approaches like Phil Spector's "wall of sound" and I love a lot of those old records, that school of production is not the one to which I would lean. The Beatles' records, by and large, were very sparse, although there are some that *are* deliberately over-the-top. There's a lot of room for the *voicings* in those records. The same goes for the Rolling Stones' records, and clearly

THE PRODUCER SPEAKS

"Benmont and I have been friends for a long time," says famed producer Glyn Johns, who produced Benmont Tench's *You Should Be So Lucky*, as well as acclaimed albums by artists like the Who, Led Zeppelin, and the Eagles. "He's played on some of the records that I've made over the years and I'm a huge admirer of his talent. A few years ago while we were both making an album with Ryan Adams, I suggested to Benmont that we make an album together. Somebody of his talent *should* have his own album. We found a way to make the album very quickly at a reasonable cost. One of the people who played bass on the album and who uses Benmont frequently in his productions was [producer and Blue Note Records president] Don Was. Don ended up picking the record up for Blue Note at the playback party. That was absolutely brilliant. It couldn't be on a better label.

"Benmont comes up with the sounds he plays, 99.9 percent of the time," Johns continues. "That's one of the wonders of the man—he comes up with the most extraordinary sounds, apart from his amazing ability to play or *not*. It's about what he leaves out as much as what he puts in.

"I always record analog and I avoid anything to do with digital until I have to let go of an album and it ends up on CD," Johns says. "There's absolutely no doubt in my mind that although an album winds up in the digital format, it benefits hugely by going through the analog process first. I have no idea why, but for me, there's something that tape does that gives a lot more *honesty* to the sound. Digital is always too clinical for me. We recorded the album in Studio 3 at Sunset Sound in Los Angeles, which is absolutely my favorite studio in the world now, the major reason being their extraordinary console. [*Sunset Sound's website lists this as a 32-input API-DeMedio console. —Ed.*] It has the best set of mic preamps on any console I've ever worked on. The monitoring there is incredibly accurate as well. There's a very honest sound in the room.

"Benmont is not only one of the finest keyboard players on the planet. He's now proven himself to be an extraordinary songwriter, which nobody really knew about, myself included. I hope that this record gets the airing it deserves, because I think there *is* a market for the quality it represents."

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the Howlin' Wolf and Slim Harpo records—all the things that I really love. Some of my favorite musical experiences are when I hear an artist just play the song to me on one instrument. It's almost always more enjoyable to me than the final product.

The album liner notes say that *You Should Be So Lucky* was recorded entirely to tape. Why was that important to you?

I have a visceral reaction to digital recording. If you gave me a blindfold test, on first listen I probably couldn't tell you "This one is tape, that one is Pro Tools" if they're both equally well recorded. However, if I'm listening to music over a period of time, I enjoy it noticeably less if it's a digital medium. I played a CD at home the other night for the first time in two or three months. At home, all I listen to is vinyl. I listen to CDs in the car because they're convenient, and I listen to MP3s if I'm traveling. I'm not a snob about it. But it was my record, Glyn is a master of tape, and he far and away prefers recording to tape. To me, tape has a sonic kindness to it. I also really dig its limitations, the fact that you can't tune or beat-correct something. You can punch something in, but it's still going to be *your* best effort, not one that's tweaked by a machine. Everything you do on tape is human. Even your "workarounds" are going to be monkeyed with by hand.

How much did you rehearse the songs before recording them?

I hate rehearsing and I hate getting arrangements together. To make this record, I simply gathered a bunch of my friends, some of whom were also friends of Glyn's, as well as his son Ethan. We listened a lot to each other and we all spoke a common musical language. So when I played the songs for them, they knew what to do. We didn't have time to rehearse, because we made the entire album, start to finish, in 11 days. That's all we had time for. I prefer to have people "learn" a song rather than rehearse it. That's the way we do it in the Heartbreakers, and why it's usually the first or second takes that have the magic in them. So you need to make sure the tape is rolling right from the start.

The opening track "Today I Took Your Picture Down" begins with eight bars of Zen-like piano chords that ring out like chimes. It's a sneaky way to start an album.

Well, Glyn thought it was a strong song and that it was a good way to introduce people to my voice, because we aren't talking about Luciano Pavarotti here. [*Laughs*.] Glyn also got this crazy, gorgeous kick drum sound that [drummer] Jeremy Stacey hits. I hope it comes across on the final record. It's just all *air*.

Your piano solo on that track sounds like a page out of your own sideman playbook. After years of soloing behind other singers, is it surreal to be taking a solo on your own song?

I don't think of it in terms of the solo. I think of it in terms of being the guy who's the center of attention on the record. I already had a tremendous amount of respect for anybody who was the focal point of a band or record. But once you put yourself in the position of having to *be* that, it only increases your respect.

The song "Veronica Said" has a kind of "Bruce Springsteen meets the Velvet Underground" vibe. Tell us about that one.

Yeah, I never noticed that originally because I wrote the first verse and chorus a long time ago, and since I couldn't remember how the rest of the song originally went, a month before we made the record I wrote the last two thirds of the song. It wasn't until I tried it on piano that I realized it had a little bit of Bruce in it, like "Tenth Avenue Freeze-Out." And that's a compliment, because he's a terrific songwriter. But to be honest, the biggest influence behind that song is just straight-out Lou Reed, as far as the lyric goes. I've always listened to a lot of Lou and Velvet Underground.

There's a great organ part on that track as well. Is that a Hammond B-3 or a Farfisa?

It's a Farfisa. I loved using that, especially through a Leslie speaker. That makes "the drunken sailor" sound.

Do you still use effects pedals with your Hammond organ?

Yeah, although for this record I used them mainly with the Farfisa. I think the pedal thing comes from my love of [the Band keyboardist] Garth Hudson. I like the drawbars, so the Lowrey organ that he played wouldn't be the right organ for me. But there's something that it does that *works*, so I can throw my organ more in that direction by using pedals. The trick is not to make it sound like a synthesizer. You still want it to sound like a Hammond. You just want to mix the paint a little bit.

You also surprise with a number of instrumentals. "Ecor Rouge" is almost Charles Mingus-like. How did that song come about?

Glyn said, "Come up with a couple of covers," which I thought was a great idea. At the time, I thought it was because he didn't like my songs! [*Laughs*.] He also said to come up with a couple of instrumentals. So for the covers, we have "Corrina, Corrina" and "Duquesne Whistle," and I wrote three instrumentals—two of them are on the CD and the third is on the vinyl version of the album. "Ecor Rouge" came about when I was at Jonathan Wilson's house in Los Angeles. He's a singer, songwriter, guitarist, and producer, and we were going to do some rough demos of songs to send to Glyn. While he took a phone call, I sat at his piano and that song showed up in a very basic form. I went "A-ha!" and I chased it down once I got home. "Ecor Rouge" is the name of the street in Alabama that my aunt and uncle's house is on. I spent every summer there when I was a kid. That song just sounded like Alabama to me when I finished it.

You captured that idea on your iPhone voice memo recorder. Is that becoming a new favorite sketchpad?

When I was at Jonathan's and that song came to me, I just popped my phone on. It's terrific because you don't have to carry some other recording device. These days, whoever makes your phone, there's bound to be some kind of recorder in there.

The strings behind your solo on "Ecor Rouge" are so organic and moody, they almost sound like a Mellotron.

Oh, it's not! That's a string quartet called the Section Quartet. They're really good—they're like a rock 'n' roll band in the sense that they play "head arrangements." Sure, they write things out, but on this record they came in, we played them the songs, and they figured out what to play. They're incredibly intuitive and they play beautifully together. We actually brought the new digital Mellotron down to the studio, but we didn't end up using it because we had such a great string quartet.

That song's harmonic structure and the solo itself have an almost jazz sensibility about them. Do you listen to a lot of jazz?

I listen to a lot of Louis Armstrong, and I have over the course of my life listened to the obvious jazz giants, like Lester Young, Duke Ellington, and Miles Davis.

The organ solo on "Hannah" envelops and wraps itself around the song, the groove and the piano riff, but it never overshadows them.

I felt like just playing the melody was good there. I initially thought we were going to put strings on it, or someone might interlace around what I was playing in the second half of the solo. I had tried playing some other kinds of solo things, but I thought, "No, that's not the mood. That's not what I'm trying to say." Originally, that song was very much like "Not Fade Away" and "Mona," like a tribute to Buddy Holly and Bo Diddley. That was, until a few weeks before we recorded it, when I woke up out of a sound sleep. Once again, I turned the phone recorder on at the piano and changed the chords, the mood and the melody—and it came out like we recorded it on the record, which is vastly better than it was before. But I will confess that I definitely copped the organ sound on that song. It's a cross between Mitchell Froom and

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E Street keyboardist Roy Bittan, who played some of the organ on Springsteen's *Born to Run*.

"Hannah" also makes use of lots of space, whereas a lot of songwriters who accompany themselves on keyboard tend to overplay.

Well, I like space. I don't like it when people fill it up. There are a few exceptions: Billy Preston and Allen Toussaint fill it up but somehow leave a lot of space in the groove at the same time. Elton John fills up the space really forcefully, but he knows what to play and how to voice things so the song is presented well. But I'm not really interested in anything other than *songs*. Even the best instrumental performances are about the melody and the song.

"Blonde Girl, Blue Dress" is another song with a simple lyric and a groove that glues everything together. In the press materials for the album, why did you liken this one to a Haiku?

Well, calling it a Haiku may sound a bit pretentious, but a Haiku says things in a few words and leaves everything open. The first time I sat in with Tom Petty I was 17 years old, and he was already writing good songs. I've always loved how while he can write an involved, complicated lyric, a lot of the time he'll say, "The least amount of words can create the most emotional impact." So I think that one came right out of listening to and loving Tom's writing for my whole life.

How did you get Ringo Starr to play *tambourine* on that one?

Ringo was originally supposed to play drums, but we got our dates mixed up. When he called and said, "Okay, I'm ready," I told him, "Oh dude, we cut it already, but it really needs a tambourine with your *feel* on it." He replied, "I'll be right over!" And he was there in 20 minutes with a gym bag full of rattling stuff. After Glyn mixed that one, the only comment I had was, "Turn up the tambourine!"

The title track "You Should Be So Lucky" has a great Wurly solo on it. What is it about the Wurly that still intrigues you?

It's fun to play and the tone of it leaves a lot of room for other instruments in the mix. It also speaks a lot and it doesn't take up as much room as the piano. There's a lot of Wurlitzer on this record, and that's because Glyn really liked it. I have three different styles of Wurlitzers. One is the traditional 200-series model like Ian McLagan played. I've also got a beautiful tube 100-series, a wooden one like Ray Charles used. And I have a Wurlitzer electric spinet that sounds absolutely beautiful and chimey. Most of this record features the wooden one.

JUAN PATINO

The instrumental "Wobbles" accesses your inner Professor Longhair. Can you talk about your affinity for New Orleans music?

I went to college there for two years. New Orleans is a city that if you spend any time there at all, it lays claim to you. It becomes something that you deeply love. I knew nothing about New Orleans musical culture besides some songs that were already old when I got there—things like "Mother in Law" and "Rockin' Pneumonia." But when I got to New Orleans, I was immediately hit with the music of Professor Longhair and the Meters. I haven't stopped listening to New Orleans music since.

Who are some other New Orleans piano players that inspire you?

Everybody! Henry Butler, Toots Washington, and Allen Toussaint. Good Lord, Toussaint is just astounding. His playing is flowing, lovely, and gentle. He's never overselling it, but it's always *present*. He's remarkable.

You used your own upright piano on the track "Why Don't You Quit Leaving Me Alone." What kind of piano is it?

We knew we wanted a couple of different piano sounds on the record. Guitar players come into the studio and say, "I'll use the 1957 Les Paul on this track, and then I'll use the 2000 Stratocaster on the next one." Piano players wind up with the piano that's in the studio, for better or for worse. That leaves just one sound for piano for an entire record. The Beatles knew better. So Glyn and I thought, "Let's bring the upright in from the house. It'll come in handy." It's a teak-colored Yamaha U7. It was actually in pretty bad shape, so after the session I had it restored. It's terrific.

How about the grand piano you used on the rest of the album?

That was the Steinway B from Studio 3 at Sunset Sound.

Do you play and write differently on an upright piano as compared to a grand?

Probably. The touch is different, and the sound and tonality are different as well. What I really love about the Yamaha U7 is that it has a mute strip—a felt strip that can be lowered between the hammers and the strings to dampen the sound. I like that because it gets the piano really quiet. I use the soft pedal on grand pianos almost all the time as well.

Have you added any new keyboards or effects to your rig of late?

Ryan Adams gave me the Electric Mistress by Electro-Harmonix. It's an analog stereo chorus/flanger pedal. He also lent me their Memory Man analog delay pedal, and I went straight-out and bought one for myself. When I play with Ryan I put a Vox Continental and a Casio through those pedals. They sound gorgeous. I don't know a lot about gear, except that generally, the more recent something is, the less I like it. [*Laughs*.]

After four decades plus of gigging, what still inspires you about playing live?

Well, I'm in my favorite band. You can't be in the Beatles or the Rolling Stones, but to tell you the truth, I wouldn't want to be. I'm in the right band for me. That's what inspires me about gigging: I'm in the damned Heartbreakers! The other thing that inspires me is the gang at Largo - the musicians like the Watkins, Gillian Welch, Fiona Apple, and Jon Brion, and the audience there who *wants* you out of your comfort zone. That's always exciting for me. I'd rather go onstage never having heard the songs before, because that's how you get the real connection to the song.

Do you have any parting musical advice for aspiring rock keyboardists?

If I'm good at anything, it's at *listening*. So if you want to play with something like the sensibility that I have and you want to know where I'm coming from, go listen to keyboard players like Booker T. Jones, Nicky Hopkins, Jerry Lee Lewis, Professor Longhair, and Allen Toussaint. Then, listen to drummers like Ringo Starr and Charlie Watts, because they don't play "drum parts." They listen to the singer sing and they play *songs*. That's the lesson. ♫

AT GUITAR CENTER

GAVIN DEGRAW

SPARKING KEYS TO CREATIVITY

Though Grammy-nominated and multi-platinum-selling Gavin DeGraw was raised in a prison town two hours north of New York City, and had seen harsh reality from an early age, the hippie vibe of nearby Woodstock lingered in the air, offering a feeling of limitless possibility and freedom.

"Music was definitely part of our family culture. My granddad played music. My granddad's brothers played music. They were basically like a bunch of farm kids who played music," DeGraw says. "My dad plays guitar and he's a great singer. He wasn't a piano player, but he could figure it out and say, 'Here, check this out.'"

DeGraw says his exposure to live music at an early age helped him build a passion for learning to play. His brother already had a three-year jump on playing guitar, so DeGraw gravitated toward the piano. "My family was unusually supportive about playing music because they just loved music. So when I told them I wanted to play rock and roll, they were like, 'Cool, yeah, go do that. Good idea.' It was weird how there was no way to be rebellious about it."

The songwriting on DeGraw's latest release, *Make a Move*, reflects that freedom, incorporating aspects of several different popular music genres into one album, from stripped-down Americana and analog synthesizer sounds to hi-tech electronic dance sounds.

Read the entire interview and see the keys to Gavin's sounds at guitarcenter.com.

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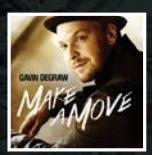

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BOOM

TOURING WITH GRUNGE GIANTS PEARL JAM

BY MICHAEL GALLANT

Millions of listeners worldwide entered the world of alternative rock through brilliantly raging, early '90s gateway songs like "Alive," "Even Flow," and "Jeremy." Two decades later, lightning continues to strike for the band that brought those tunes to life.

CIRCA 2014, PEARL JAM IS STILL FILLING AND THOROUGHLY RUMBLING STADIUMS around the world, and their newest album *Lightning Bolt* continues the band's timeless synthesis of songwriting honesty, raw musicianship, and a predilection to transcend flavor-of-the minute trends.

Key to Pearl Jam's current sound is Hawaiian keyboardist Boom Gaspar, who has been called the band's unofficial sixth member. Gaspar met frontman Eddie Vedder while surfing and struck up a friendship, having never before heard of the singer or the band. Gaspar began working with Pearl Jam in 2002 and has recorded and toured with them since; live concerts often find him trading B-3 solos with guitarist Mike McCready during the band's more raucous numbers.

Here's what Gaspar and Pearl Jam keyboard tech Josh Evans had to say about adding keyboards to the world of a Seattle grunge legend.

What was your musical background before joining the band?

Boom Gaspar: I first started playing when I was nine years old. I had a small organ and a cheap little amp at the time. I joined a band a month later and have been playing ever since. I played a lot of clubs in Hawaii over the years, including a lot of commercial music in order to make a living. I moved to Seattle in 1973 and played in a local blues band—and also in the backing band for blues guitarist Albert Collins. I moved back and forth from Seattle to Hawaii playing with a number of groups.

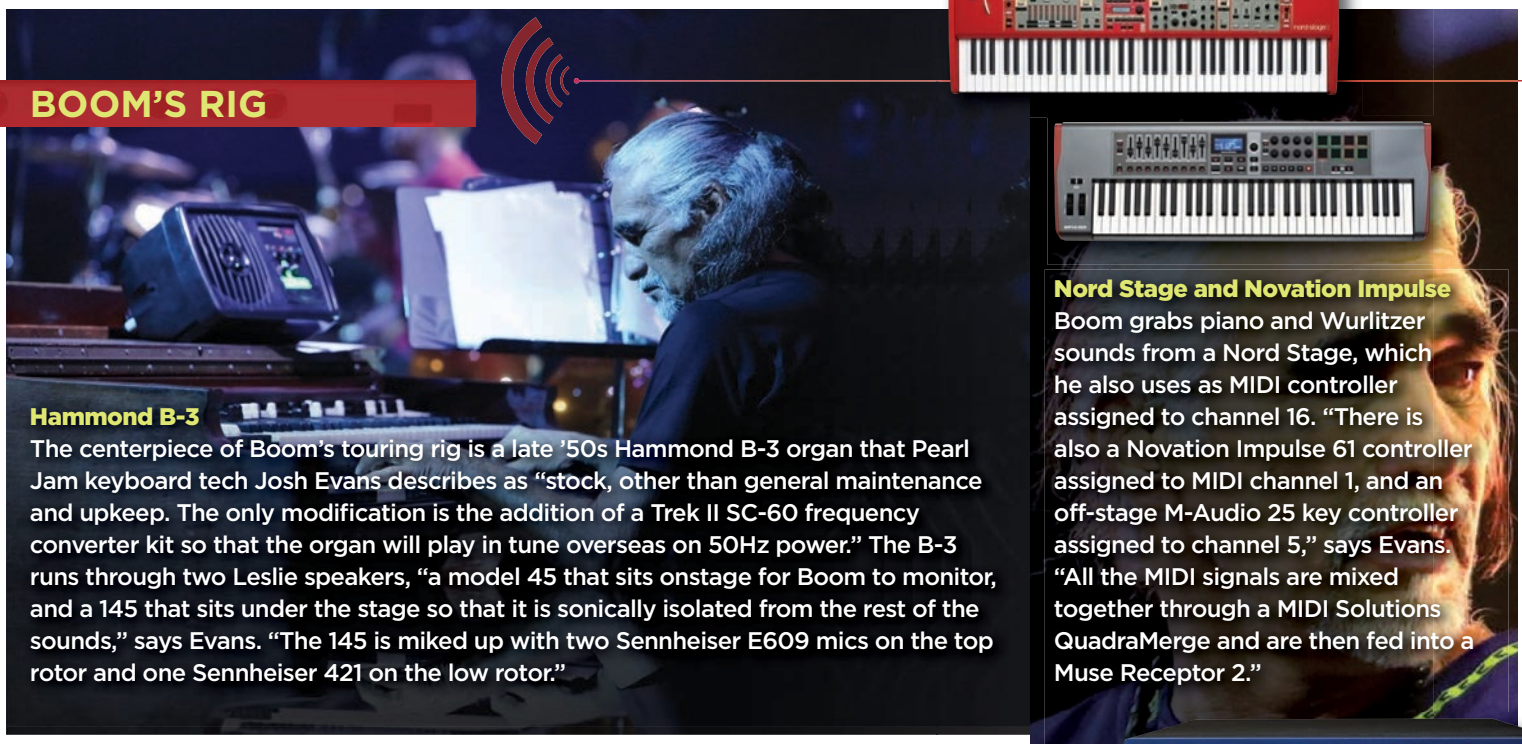
Pearl Jam already had a cohesive sound before you started working with them. How did you find your place, especially amidst all the loud guitars?

BG: I didn't want to take anything away from what the band had already laid down or pull songs in a completely different direction. My approach was to stay in the flow and do my best to enhance what Pearl Jam had already established. You have to find your own lane — but not go *way* out there—and try to be a supportive keyboard player.

How have you chosen specific keyboard sounds to fit with Pearl Jam's repertoire?

Josh Evans: Having live access to software like Miroslav Philharmonik on Boom's Muse Receptor works well for Pearl Jam because the sounds can be so much more organic and realistic. Pearl Jam isn't really a synth band, so I want to make sure that all

BOOM'S RIG



Hammond B-3
The centerpiece of Boom's touring rig is a late '50s Hammond B-3 organ that Pearl Jam keyboard tech Josh Evans describes as "stock, other than general maintenance and upkeep. The only modification is the addition of a Trek II SC-60 frequency converter kit so that the organ will play in tune overseas on 50Hz power." The B-3 runs through two Leslie speakers, "a model 45 that sits onstage for Boom to monitor, and a 145 that sits under the stage so that it is sonically isolated from the rest of the sounds," says Evans. "The 145 is miked up with two Sennheiser E609 mics on the top rotor and one Sennheiser 421 on the low rotor."

Nord Stage and Novation Impulse
Boom grabs piano and Wurlitzer sounds from a Nord Stage, which he also uses as MIDI controller assigned to channel 16. "There is also a Novation Impulse 61 controller assigned to MIDI channel 1, and an off-stage M-Audio 25 key controller assigned to channel 5," says Evans. "All the MIDI signals are mixed together through a MIDI Solutions QuadraMerge and are then fed into a Muse Receptor 2."

Muse Receptor 2 and Virtual Instruments
"The Receptor 2 is used to run Native Instruments Kontakt 4 and Pro-53, IK Multimedia Miroslav Philharmonik, GForce M-Tron, and other programs," says Evans. "I use some off-the-shelf sounds like Clavinet, dulcimer, and Rhodes, but I also build custom instruments in Kontakt whenever there isn't a commercial option available."

As of the writing of this article, Evans recently created such custom instruments for the portative organ (a small pump organ) melody on "Just Breathe," from Pearl Jam's *Backspacer* album; the Clavinet, electric piano, and backwards guitar intro sounds on "Infallible" from *Lightning Bolt*; and the sound effects and reverse piano texture on "You Are."

"It's great to be able to create custom instruments for Boom and Pearl Jam because we aren't limited to pre-packaged sounds, which can at times sound generic or cheesy," says Evans. "It's also super-great to have the ability to expand Boom's sounds on the fly—like when the band decides to do a last-minute Devo cover, which they did a few years ago in Philadelphia on Halloween."

ASPAR

of Boom's sounds fit in with the aesthetic of the band, and sound just as organic and real as the rest of the instruments on stage. The combination of the grittiness of a vintage B-3, the reliability and quality of the Nord Stage, and the flexibility of the Receptor and [Native Instruments] Kontakt allows Boom to have a good hybrid between vintage keyboard sounds and modern synthesis and expandability.

What are some of the biggest overall challenges of playing with Pearl Jam?

BG: Learning what Pearl Jam is, and learning each of the band members' different styles. It's such an education for me. Every night is different and playing with them is amazing. I love challenges. They make you a better player and challenges are what music is all about.

Who are your personal keyboard heroes?

BG: Booker T. Jones. When I started playing organ, Booker T. and the MGs had released "Time Is Tight." It was the first instrumental song that I'd heard with keyboard solos. It was *gritty*. It was my father's favorite—he always had it playing on the eight-track deck in his van when he would pick me up from gigs. Also, Gregg Rolie in early Santana. He brought the organ to the forefront again. He had a lot of minor-key licks, which I love. Finally, Chester Thompson. It makes me *mad*, how good he is! He's my favorite B-3 player.

What have been some of the biggest changes in the touring rig, and how will it change down the road?

JE: The biggest changes have happened on the synth side. When I started with Boom five years ago, he was just using the B-3 and a Kurzweil SP88 for piano sounds. It got the job done, but there wasn't any room for customizing Boom's palette of sounds. With *Backspacer* and *Lightning Bolt*, there became more of a need for a bigger variety of sounds. The biggest change in the near future could be the addition of a laptop-based system for software synths.

Has Pearl Jam ever thought about touring with a real grand piano?

JE: I don't know what Boom thinks—but as the guy who would end up tuning the piano everyday, I vote no!

What do you do when you're not working with Pearl Jam?

BG: When I'm not playing with Pearl Jam, I play music with my Hawaiian band Pō and the 4fathers. We're currently doing production on new songs. The website is poandthe4fathers.com.

Any final thoughts?

BG: Who would think that a Hawaiian like me from a small island would be able to see the world because of music and playing keyboards? I'm living the dream. ♫

Glenn Patscha

SIDEMAN SUCCESS AND NEW WAVE NOCTURNES

BY JON REGEN

KEYBOARDIST AND VOCALIST GLENN PATSCHA IS ONE OF NEW YORK'S MOST in-demand musicians, both as a sideman with artists like Marc Cohn and Roseanne Cash, and as a leader with the bands Ollabelle and The Big Bright.

HOMETOWN: Winnipeg, Manitoba, Canada

MUSICAL TRAINING: I started playing by ear at the age of four. I took organ lessons until age 12, and studied piano with the Winnipeg-based jazz pianist James Gillies from age 12-18. Later I studied jazz piano with Ellis Marsalis and Harold Battiste at the University of New Orleans.

FIRST GIGS: Playing with cover bands in and around Winnipeg. I also played with older jazz musicians in Winnipeg like guitarist Larry Roy. They really opened my ears up. The first band I joined in New Orleans was the Victor Goines Quintet, with Victor, Nicholas Payton, Brian Blade, Roland Guerin and myself. What an amazing time!

MUSICAL INFLUENCES: Neil Young, Hank Jones, Ahmad Jamal, the Staples Singers, Donny Hathaway, Bonnie Raitt, Buddy Miller, Bill Evans, Harold Battiste, Ellis Marsalis, Roberta Flack, Billy Preston, Oscar Peterson. Too many to list. . . .

WHAT I'M LISTENING TO RIGHT NOW: A lot of Jimmy Giuffre. He really got a unique sound with his trio. Tinariwen's record *Tassili* has been in pretty constant rotation too.

INSTRUMENTS PLAYED: Piano, organ, quirky keyboards of all sorts including a Casio CT-310, Estey Portable Reed Organ, Lowrey Genius, accordion, guitar, and pedals galore.

MY BIG BREAK: Probably the most life-changing break was meeting Wynton Marsalis in Winnipeg in 1988. He put me in touch with his father who gave me a scholarship to study at UNO. Also, producer T Bone Burnett falling in love with our band Ollabelle and getting us signed to Columbia/Sony records.

LATEST ALBUM: I have a new collaboration with Fiona McBain and Liz Tormes called The Big Bright. We made a record of lullaby versions of songs from the 1980s called *I Slept Thru the '80s*. I am proud of how beautiful the arrangements are on this one. I like to think of this collection as "New Wave Nocturnes."

FAVORITE KEYBOARD GEAR: If I could name one piece it would be my Wurlitzer 200A electric piano. It helped me fall in love with music again a while back. You can play such simple things on it and it just sounds beautiful. I also love the way it blends with guitars, too. Being kind of a pedal nut, I love how it sounds when I mess with it through them.

WHAT'S NEXT: Touring this spring with Marc Cohn and Rosanne Cash, two great people who always have such great bands. It's a pleasure to be in their company musically and otherwise. I am also going to score a few films, one by Mary Ellen Mark and Martin Bell and another by an amazing young Finnish director named Alli Haapasalo.

ADVICE: Music is a constantly changing creature. I believe you can enjoy it most when you have the ability to roll with those changing circumstances. Make the most of what is happening in the moment. Develop your ears to the greatest possible extent and never stop pushing yourself to reach further into uncharted musical and artistic territory. There is always such great beauty and joy waiting there. ♫

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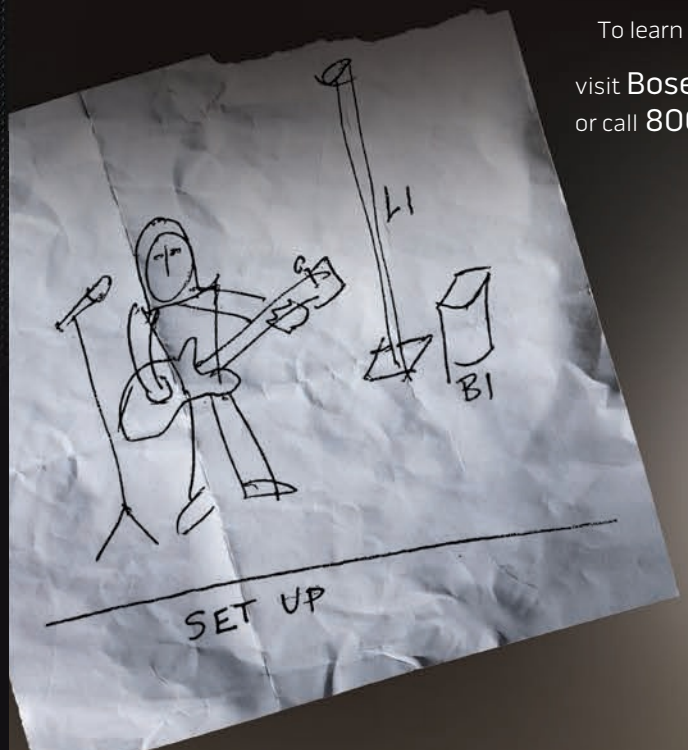

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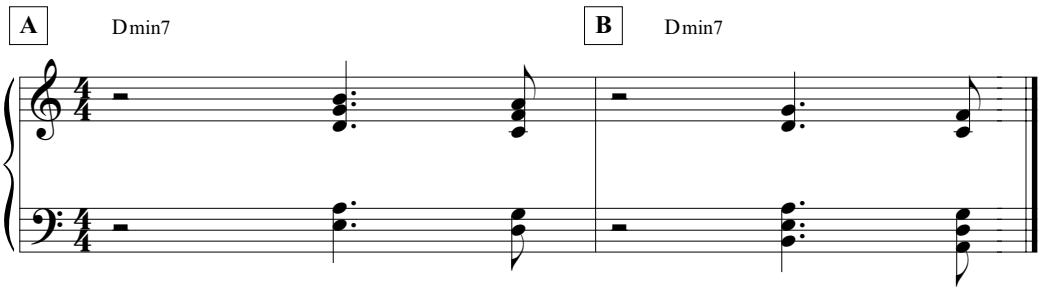
Chords in Motion

COMPELLING COMPING WITH QUARTAL VOICINGS

BY ANDY LAVERNE

MY "CHORDS IN MOTION" JOURNEY BEGAN WHEN I FIRST HEARD MCCOY TYNER PLAYING ON JOHN COLTRANE'S CLASSIC recording *A Love Supreme*. I was intrigued by the mysterious and open sound of McCoy's voicings. After some investigation, I learned that his structures were called quartal voicings and were based on fourths. While quartal structures had been played previous to Tyner, he was the one who put them in motion, as a response to the longer harmonic rhythms found in many of Coltrane's compositions. Here are some examples to get you better acquainted with these intriguing voicings.

Ex. 1a

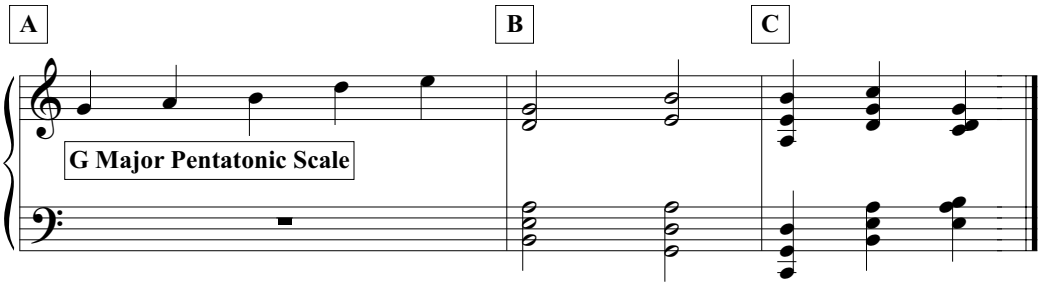


Ex. 1b

Ex. 2a

Ex. 2b

Ex. 2c



Ex. 3

1. Quartal Basics

Ex. 1a illustrates the classic "So What" voicing played by Bill Evans on the Miles Davis recording *Kind of Blue*. Notice the first-inversion major triads in the right hand, and the fourths in the left hand. **Ex. 1b** shows how dropping the top note from the right hand down two octaves results in a *purely* quartal voicing, with three notes in the left hand and two in the right—a frequently used configuration.

2. Pentatonics and Fifths

Pentatonics and quartal voicings are cousins. When combined as in **Ex. 2a**, the notes in a major pentatonic scale yield a quartal voicing. **Ex. 2b** shows how perfect fourths inverted become perfect fifths, thus a quartal voicing can be transformed into a quintal voicing. Both voicings contain the notes of the *G* major pentatonic scale. In **Ex. 2c**, five-note voicings are expanded into six-note voicings, which can then be inverted to open and close positions.

3. Moving Quartals

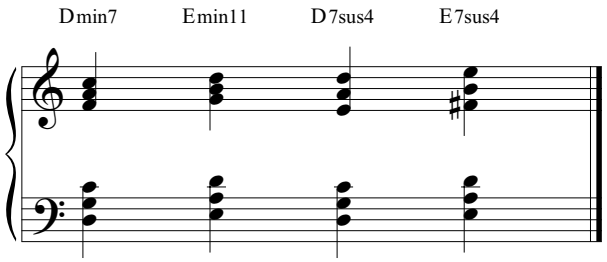
Ex. 3 illustrates how you can practice five-note quartal voicings by walking up a mode diatonically from the root. The voicings here are derived from the *D* Dorian mode (major scale harmony), and can be used for *Dmin7* as well as *E7sus4♭9*, *Fmaj7♯4*, *G7sus4*, *Amin♭6*, *Bmin7♭5*, and *Cmaj7sus4*.

Ex. 4

4. Varied Intervals

Ex. 4 demonstrates how the interval between the top two notes of quartal voicings can be varied to create a melodic pedal point.

Ex. 5



5. Mixed Voicings

In **Ex. 5**, the first two voicings are triads over quartals and the second two are sets of fourths separated by a major third. When used to harmonize melody notes, these voicings can move up or down in any interval. One way to think of it is that they have constant structures but variable functions.

Ex. 6

6. Diminished Structures

Here's a mouthful: the octatonic symmetric diminished scale. This scale alternates whole-steps and half-steps. When a chord tone in a diminished seventh chord is raised a whole step to a scale tone as in **Ex. 6**, a major triad with a flat ninth results (*F/F♯*). This voicing can be moved up or down in minor thirds. It can also be distributed between two hands for a bigger sound. Since these voicings are derived from the diminished scale, they can be applied to the following diminished chords: *F♯*, *A*, *C*, and *E♭*, and the following dominant seventh flat nine chords: *F*, *A♭*, *B*, and *D*.

Ex. 7

7. Major and Minor from Diminished

There are four scale-tone major triads and four scale-tone minor triads contained in the diminished scale. **Ex. 7** illustrates how any of them can be used to create voicings which can be moved up or down in minor thirds and applied to any of the chords on the same diminished axis. The quartal-based 7♭9 left hand structure can also be moved up or down in minor thirds, either together with or independently of the right hand.

Ex. 8

8. Mirrored Diminished Voicings

Ex. 8 demonstrates that by mirroring the quartal based left hand diminished/dominant 7♭9 structure in the right hand, we can create another diminished scale based voicing which can move up or down in minor thirds. Adding more scale tones results in varying textures.

Ex. 9

9. Scale Tone Triad Voicings

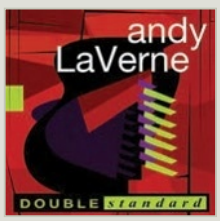
The major and minor scale tone triad pairs found in major scale harmony can be used as voicings, as seen in **Ex. 9**. These triads can move in contrary motion up and down diatonically shifting between inversions. The resulting voicings can be applied to all related chords from the same parent major scale.

LISTENING LIST

Quartal Chord Voicings

JOHN COLTRANE
A Love Supreme
McCoy Tyner, piano

STAN GETZ
Sweet Rain
Chick Corea, piano



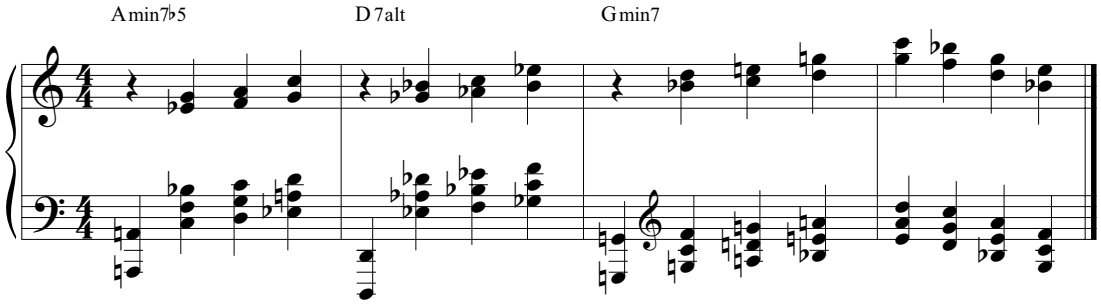
ANDY LAVERNE
Double Standard

Ex. 10

10. Triads and Octaves

Ex. 10 illustrates moving structures featuring triads in the left hand with octaves containing fourths and thirds. Extrapolate this to apply to all chords built on the same parent major scale.

Ex. 11



11. D is for Dorian

Ex. 11 illustrates how you can navigate a ii-V-i progression in minor using quartals by using the Dorian mode a minor third above the root of the ii min7♭5 chord (*Cmin7* over *Amin7♭5*), the Dorian mode a half step above the *V7alt* chord (*Ebmin7* over *D7alt*), resolving to the Dorian mode built on the root of the *i* chord.

12. Putting Chords in Motion

The chorus of *F* minor blues in **Ex. 12** illustrates how all these devices can be integrated into a comping context. The coda is a descending progression of quintal voicings alternating between minor 11th and major 7*#4* chords.

Ex. 12

Swing Both Ways

"Quartal voicings are versatile and also harmonically ambiguous, since they don't outline harmony using typical guide tones like thirds or sevenths," says pianist, composer and longtime contributor **Andy LaVerne**, who has performed with Frank Sinatra, Stan Getz, and Chick Corea. His latest projects include the book *Chords In Motion*, the CD *I Have A Dream*, and a series of instructional videos online at mymusicmasterclass.com. Andy is Professor of Jazz Piano at the Hartt School of Music in Connecticut, and on the faculty of the Aebersold Summer Jazz Workshops. Find out more at andylaverne.com.

SOUNDCLOUD

Andy LaVerne plays audio examples from this lesson.

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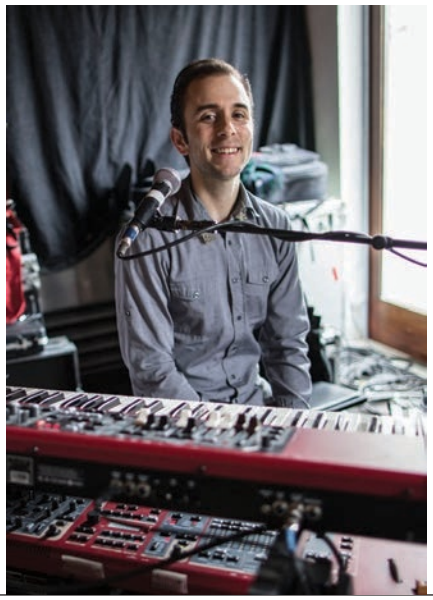


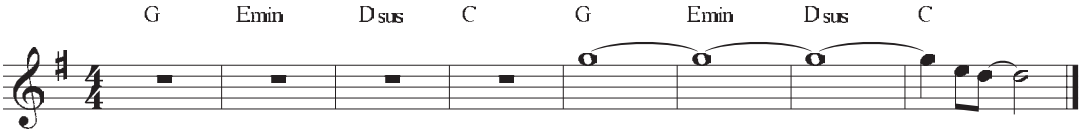
Play More with Less

COUNTRY-POP KEYBOARD PARTS WITH MAXIMUM IMPACT

BY BILLY NOBEL

WE KEYBOARD PLAYERS HAVE ACCESS TO AN ALMOST UNLIMITED NUMBER OF sounds, samples, and layers. From lush string orchestras to gritty analog synths, with the push of a single button we can fill an entire soundscape or live ensemble. But sometimes, the "less is more" approach is better. Taking a small section of music and not playing anything at all will show you how just how effective silence can be. The more you involve space in your playing, the more you will stick out when you *do* play. Let's take an eight-bar chord progression in the key of *G* and examine a few ways to make more music by playing less on the keys.

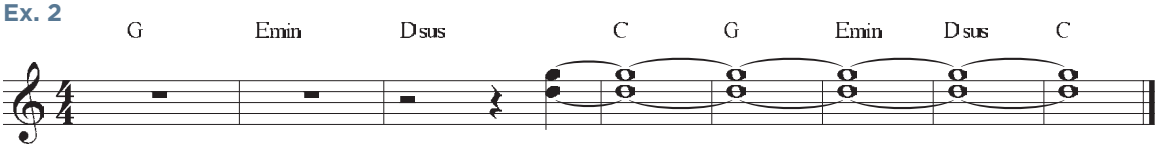
Ex. 1



1. Organ Lines

Ex. 1 takes a minimalist approach to Hammond organ. In fact, I don't bring the B-3 in until the end of bar 4. Using a simple drawbar setting of 00 8000 025, the organ enters with a short upward gliss and the Leslie on fast. (This indicates to the listener that something is now happening in keyboard world). Once I settle on the high *G*, I switch the Leslie to slow and sustain the note, staying out of the way for a few more measures until switching the Leslie back to fast, and adding a few more notes to highlight the B-3 once again.

Ex. 2



2. Organ Pads

Ex. 2 is as simple as they come. With a drawbar setting of 04 8400 024, I tacet most of the first half of the phrase, swelling in the B-3 in bar 4 in order to sustain a pad in bars 5 through 8. (Notice how in bar 7 my pad creates a *Dsus* chord while some of the other instruments play a straight *D* chord. I love that sound!) This pad stays out of the way of the rest of the instrumentation while lending some "glue" to the mix. The key is finding common tones between chords that you can hold throughout a moving progression. This allows you to make minimal moves while still making the chord changes. In bar 8, I switch the Leslie from slow to fast to indicate the end of the phrase.

LISTENING LIST

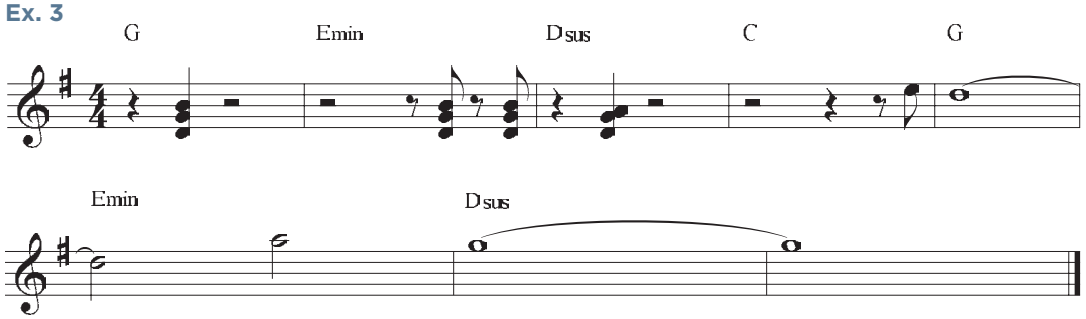
Killer Country Keyboardists

Steve Nathan on Tim McGraw's *Two Lanes of Freedom*.

Michael Rojas on Lady Antebellum's *Golden*.

Howard Duck on Kip Moore's *Up All Night*.

Ex. 3



Ex. 4

Ex. 5

3. Organ Stabs

In the first half of the phrase in **Ex. 3**, I use sparse organ stabs to set up the sustaining high notes in the second half of the phrase. My drawbar setting is 00 8000 000 and I start with a C2 chorus setting and the Leslie on fast to give these stabs a little more punch. Leaving room for a lot of space in the first half of the phrase allows for the sustaining B-3 notes to create more of a build later on.

4. Wurly Fills

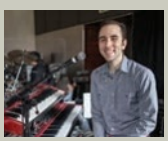
Ex. 4 looks at Wurlitzer electric piano fills. Here I play simple fills in between chord changes, making sure to leave space in between them. The fills themselves include a little syncopation, which helps give them a little more attention in the mix. Again, the less you play, the more it means something when you *do* play a fill.

5. Wurly Comping

Ex. 5 demonstrates minimal comping on the Wurlitzer. Leaving space while you comp helps you stay out of the way of other instruments while still adding drive and syncopation to the mix. Here, a measure of whole notes leads to a measure of comping, which makes your more complex passages stand out.

No Noodling!

"Knowing when not to play as well as when to play minimally can be one of the best tricks to have up your sleeve," says Nashville-based keyboardist and vocalist **Billy Nobel**. Nobel grew up in Baltimore and studied piano performance and conducting at Carnegie Mellon University in Pittsburgh. He currently plays keyboards and sings with country superstar Tim McGraw. Follow him on Twitter at @pianobel.



Billy Nobel with Casey James, "Too Sweet for Me"

SOUNDCLOUD

Original audio examples.

keyboardmag.com/june2014

Situation Soloing

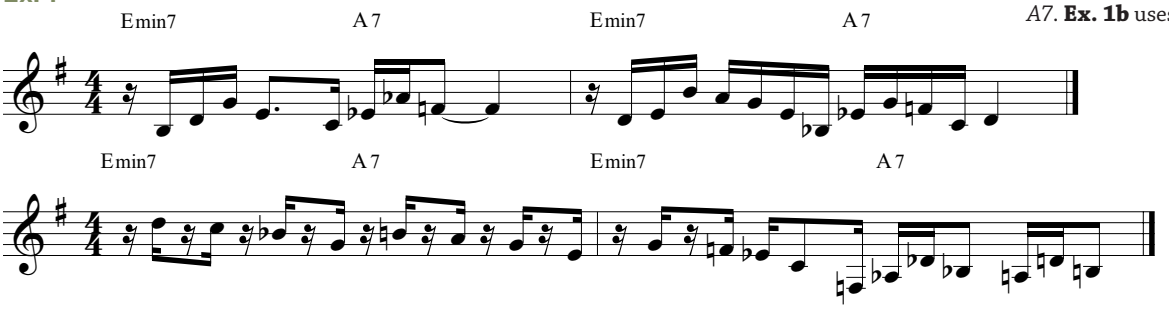
BY DAVID COOK

WHEN I THINK ABOUT MY FAVORITE PIANO AND KEYBOARD PLAYERS, THEY have two qualities that I admire: they always sound like *themselves*, and they always play what's right for the music at hand. When soloing in a band, you need to have the tools to be as musically adventurous as possible, but also the discipline to know when to use them. When you're writing your own music and fronting your own band, do whatever you want; when you're playing someone else's music, bring everything in your arsenal to the table, your ears above all else. Here are a few tips I've learned about soloing that I hope will help you find your own sound.

1. Transpose Your Lines

Transposition is a terrific tool. Move your solo line around until it sounds musical and interesting. Also try starting from an adventurous harmonic place, then make your way to the key of the song. **Ex. 1a** is a simple *E* pentatonic riff that I play up a half step. Bar 2 has another *E* riff connecting to a similar riff down a minor third, outlining a *C* minor chord but ending on a common tone to both scales that also rubs nicely with the major third of *A7*. **Ex. 1b** uses downwards motion in thirds.

Ex. 1



Influences

"I admire players like Herbie Hancock, Kenny Kirkland, Larry Goldings and James Poyser. Besides being formidable artists in their own right, they've worked as sidemen and collaborators for some of the biggest and most diverse names in music," says New York-based keyboardist and composer **David Cook**. Cook is currently the Musical Director for Grammy Award winning Country/Pop artist Taylor Swift. He has also accompanied acclaimed artists like Jennifer Hudson, Natasha Bedingfield, and Lizz Wright, and is a member of the Brooklyn Jazz Underground. Cook's debut album as a leader *Pathway* is available now. Visit him at davidcookmusic.com

Rob Papen

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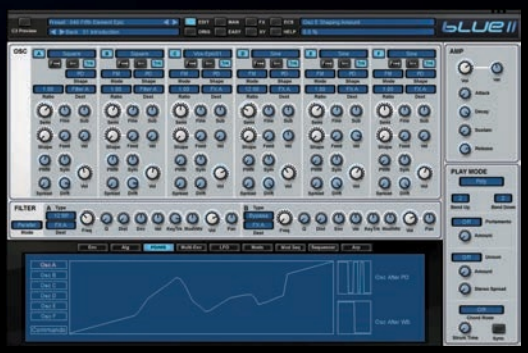

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Ex. 2a

Ex. 2b

2. Rhythmic Displacement

Another great solo technique is to take something you usually play but anticipate it by a sixteenth-note, lay it back, or superimpose a mixed-meter feel. In **Ex. 2a** I play off of a downbeat-heavy groove, laying back by one sixteenth-note. I then add to it by implying a triplet feel. In **Ex. 2b** I superimpose a 12/8 feel over a 4/4 groove, but I leave out the downbeats to make it less obvious.

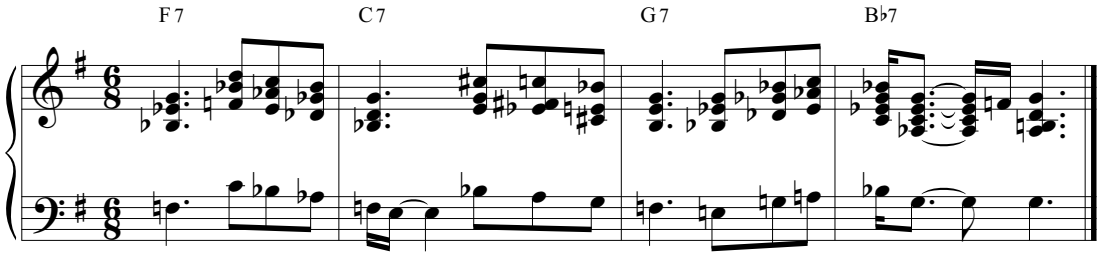
Ex. 3a

Ex. 3b

3. Play the Blues

The blues work in almost every musical context. Try simplifying chord progressions into one common blues scale at the beginning of a solo to set a tone, or at the end to "bring it all home." **Ex. 3a** shows how four different dominant chords can be tied together with the blues scale of the tonic. **Ex. 3b** illustrates a similar idea, using the notes of the tonic blues scale to help outline the changes.

Ex. 4



4. Make a Melody out of Chords

You can strengthen your solo lines by making a melody, with each note the top note of a well-voiced chord. This can run the gamut from George Shearing-type block chords to modern Gospel and beyond. **Ex. 4** demonstrates four different chord qualities to mix and match: fourths and *sus* chords in bar 1, diminished drop-2 chords in bar 2, upper-structure sharp-ninth chords in bar 3, and Shearing-esque block chords with the bottom note the same as the melody note in bar 4.

LISTENING LIST

Great Situational Soloists

LARRY GOLDINGS

- Larry Goldings Trio, *As One*
- John Scofield, *Hand Jive*
- John Mayer, *Continuum*
- Maceo Parker, *Life on Planet Groove*

HERBIE HANCOCK

(leader on all)

- *Inventions and Dimensions*
- *Head Hunters*
- *Live Under the Stars*
- *Possibilities*

KENNY KIRKLAND

- Wynton Marsalis, *Black Codes From the Underground*
- Sting, *Bring on the Night*
- Kenny Garrett, *Songbook*

JAMES POYSER

- Erykah Badu, *Mama's Gun*
- D'Angelo, *Voodoo*
- Adele, *21*

David Cook on Accompanying a Vocalist

Audio examples from this lesson.

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CONSIDER THE WORKING BAND KEYBOARDIST, A MUSICIAN WHO COVERS MULTIPLE PARTS AND SOUNDS ACROSS diverse musical styles, sets up his or her own gear, and is just as likely to play standing up as sitting down. Rigs for these gigs are what drive the pro keyboard industry, and since we spend so much time reviewing gear and telling you about rock stars' cost-no-object keyboard setups, we wanted to put you in the spotlight for a change. So we reached out on the Keyboard Corner forum (forums.musicplayer.com) and asked: Who does gigs on just one keyboard? Two? More? Here are some "greatest hits" of what you told us. For more, head to keyboardmag.com/june2014.

TREND: SOFT SYNTHS PLUS HARDWARE

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Use case (shown above): "Korg SV-1 on bottom, M-Audio Axiom 61 on top. Both control a laptop running Brainspawn Forté with a bunch of VSTs, plus an expanded Roland JV-2080. The MOTU UltraLite serves as interface, mixer, and patch bay, allowing me to route pretty much anything to the Ventilator [rotary effect pedal], headphones, the front-of-house, and so on." —**McGoo**, Indianapolis, IN.

One Board To Rule Them All

For getting in and out of the gig quickly, nothing beats a single keyboard that can make, split, and layer any sounds you'd need. Here are some of our recent Key Buy winners, followed by what some of you are playing.

High end: Korg Kronos (reviewed Sept. '11). Its multiple sound engines amount to a top-flight PCM workstation, several virtual analog synths, a drawbar organ, and dedicated grand piano and EP plug-ins all in one unit. Add the color touchscreen, set list mode, extensive performance controls, and plenty of polyphony, and the Kronos holds a position that's yet to be leapfrogged for sheer do-it-all power.

Midrange monster: Yamaha MOXF (reviewed Apr. '14). Packing the entire sound engine and set of the flagship Motif XF, but at literally half the price and weight (true of both the 61- and 88-key formats), the MOXF punches way above its "in the teens" price class. There's space for a Flash memory board for aftermarket sounds.

Bang for buck: Casio Privia Pro PX-5S (reviewed Aug. '13). Combining a stage piano and multitimbral performance synth into a 25-pound instrument, the PX-5S tends to drop jaws–especially of people who still harbor some retrograde dime-store image of Casio. People can't believe how deep its multitimbral and synthesis capabilities go, and how just plain great it sounds, for a street price of $999.

Organ forward: Hammond SK1 (reviewed Nov. '11). If you mainly play organ and need drawbars to grab, but would also like enough good piano, EP, acoustic, and synth sounds to get through a night of cover tunes, the SK series is surprisingly flexible—and lets you play organ and other sounds at once. It lacks pitch-bend or mod wheels, but is a great candidate for hooking up a cheap controller to access the non-organ sounds.

The dual-manual SK2 is the option for doing this all in one box, as Atlanta-based keyboardist **Jim Eshleman** details: "I've been using my Hammond SK2 as a mini-multi-keyboard rig because you can assign different sounds to each of its keyboards. Much of my current band work requires typical organ and piano sounds, but stage space is limited and song selections change quickly, so I like using a single instrument with two playing levels, where one patch change can call up sounds on both manuals."

Single-Keyboard Rigs

I've always wanted to have both piano and organ on my palette, and there's simply no way to do adequate justice to both on one keyboard. Balanced against this is the convenience and elegance of one keyboard. Sometimes those virtues win out. The best one-keyboard-for-multi-part rigs I've had have been: Korg Kronos 61, which, despite being unweighted, was not too bad for playing piano parts, and a Nord Stage 76, which is the inverse—weighted but not horrible for organ —**Adan**, San Francisco, CA.

I was in a '70s and '80s cover band for five years running a single Roland Fantom-G6. I had up to eight splits/layers in plenty of songs with things mapped all over the keyboard, including sampled bits of guitar for background stuff: Toto's "Hold the Line" rhythm chords, the second lead line in "Carry On My Wayward Son" by Kansas, and more. –**Bill W.**, Fairfax, VA.

In praise music I use one keyboard for everything whenever I can because it's much easier to read and handle sheet music that way. Things are usually semi-permanently set up so it's not a matter of slogging a second keyboard to a gig. Currently I'm doing it all from a Casio Privia Pro PX-5S. —**Bill H.**, Columbia River Gorge, USA.

I play synth in a couple of bands using only my Nord Lead 2X. Despite it all being analog-style synth sounds, there are parts [galore]—lots and lots of different sounds to be selected. Hard work but great fun. —**Nillerbabs**, Denmark.

I'm currently playing the second keyboard book for a production of *Les Miserables* My bread-and-butter gigs are theater pits, and I almost always do them with one keyboard. I use a Roland RD700-GX; if the requirements for different sounds are simple and mainly piano-based then that's all I'll bring. If it's something more involved with lots of orchestral sounds and splits, then I pair the RD up with my JV-2080 loaded to the brim with expansion cards. The JV-2080 has patch remain, and sounds great in the live mix with actual strings, brass, and woodwinds. The RD is easy to use as a controller, so getting my Setups set up is a pretty smooth process. —**BluMunk**, Burlington, VT.

TREND:

SINGLE KEYBOARD PLUS CONTROLLER

Setup: Full-featured workstation or stage synth, plus either a dedicated controller or older synth/digital piano MIDI'ed up but not outputting audio.

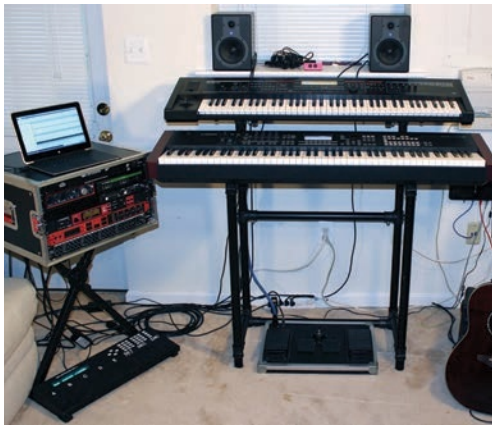
Rationale: Main synth has all the required sounds and multitimbral capabilities, but you need extra keys for playing more of those sounds at once.

Use case: "With all of the capabilities of the Korg Kronos, I only need a controller to go on the lower tier. I chose the Kronos 61 to be on the top tier so I have full view of and access to the screen controls. To keep the rig more compact, I went with a Roland A70 on the bottom. However, for somebody wanting a weighted 88 for piano, there are lots of options. I like being able to set everything up in one box, [with] one set list mode and one audio out." —**J . Dan**, St. Louis, MO.

Pairings

Without question, the two-tier keyboard stand is the most common foundation of the modern gig rig. How does what goes on one tier complement what goes on the other? Here's how you schooled us.

I use a Yamaha MOXF8 on the bottom and a Roland Juno Stage on top. Both have local control turned off all the time. Routing, splits, and MIDI -processing is via Cantabile running on a Windows 8 laptop, and an M-Audio MIDIsport 4x4 interface. Organ comes from a Hammond XM-2 in the rack, and for those times when you absolutely need that hard oscillator sync, an Access Virus rack. I find the Yamaha's mod wheel easier to articulate than the Roland push-lever, so there are times I need to route MIDI from the MOXF to the Virus, and the Juno to the MOX, as well as other assorted MIDI routings. —**Koda Vonnor**, Washington, DC.



For a couple of years recently I played in a classic rock band that covered Genesis, the Who, Elton John, Rush, the Rolling Stones, and everything in between. I played 99 percent of everything using a Yamaha Motif 6. Pianos, EPs, organs, strings, horns, guitars, leads, bells, everything—almost. I also had an Access Virus TI that I needed for a few things, like those trippy vocoder synth bits in "One Thing Leads to Another" by the Fixx, the sequenced ostinato in "Baba O'Riley," and the big synth intro to "Funeral for a Friend." The great thing about the Motif instruments is the ability to have 16 presets available at the touch of a single button. Change banks, and you've got another 16 presets. This always allowed me to use four, five, or six sounds in a single song without missing the proverbial beat. —**keybdwizrd**, Chicago, IL.

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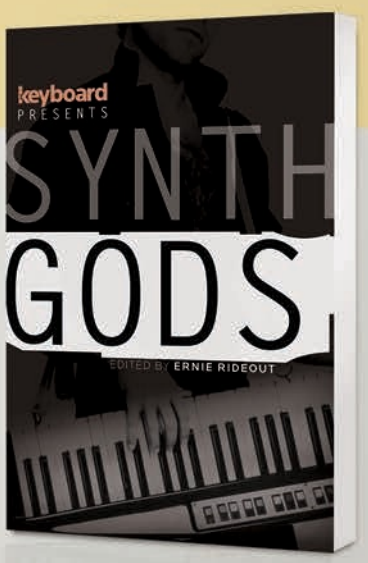

edited by Ernie Rideout

This book spotlights artists who did much more than just play synthesizers: they changed the course of music history and inspired generations. Featuring in-depth profiles of Jan Hammer, Wendy Carlos, Rick Wakeman, Brian Eno and others, this book delves into how these new, untested boxes of circuitry captured the imagination of so many legendary artists.

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I always use two keyboards for my classic rock/funk/R&B band. On the bottom is a Casio Privia PX-3, which I use primarily for electric and acoustic pianos. The acoustic piano is usually one of the onboard sounds. For EP sounds I use the PX-3 as a MIDI controller to trigger programs in [Applied Acoustics] Lounge Lizard. The top keyboard is a Kurzweil PC3 used primarily for organ, Clavs, horns, and pads. Oh, and the PC3 has a mean blues harmonica patch which I use on a couple of Grace Potter and Tom Petty tunes. Then I also use the PC3 as MIDI controller for organ sounds via GSi VB3, and Clav sounds via the Pianoteq plug-in. Leslie speed is mapped to the sustain pedal and VB3 volume to the mod wheel. —**LeesKeys**, New Bern, NC.

It depends on the gig. For blues and jazz, it's a Yamaha CP40 on the bottom and Hammond SK1 on top. Function and wedding band gigs demand a wider palette and quicker access to setups, in which case the Kurzweil PC3-61 supplants the Hammond as the top board. Kurzweil's KB3 organ mode is good enough to cover Hammond in that setting. I also have the option of using any of these as a single 'board, of course, and have been favoring the Hammond lately as a great-sounding, light, one-keyboard solution for rehearsals or gigs which are either tight on space (such as pubs) or require lightweight mobility (festivals). —**Aidan**, Stoke-on-Trent, U.K.

For the variety of stages I play, two keyboards is just right: L-shaped setups have been a logistical risk, and I find three-tier stacks cumbersome. I've used many live pairings since 2000, but here are three that I'm playing currently:

Yamaha CP4 and Korg Kronos 61: Fantastic combination for a wide variety of stuff. The Kronos is an *uber*-synth, with the clonewheel organ built in. These two keyboards have distinct, sonic footprints. It's a great "chameleon" hardware rig.

Roland Jupiter-50 and Korg Kronos 61: Comprehensive synth coverage for when having a weighted 88 isn't critical. Like above, the two have distinct sonic footprints.

Yamaha CP4 and Roland Jupiter-50: I haven't taken this combination out yet, but I suspect it would work well. The "SuperNatural" Performances in the JP-50 have a certain sonic "separation" that's much different than what I experienced using a Roland XV-5080 sound module live. I've also used a Yamaha S90XS and the JP-50 together. The tonewheel engine of the JP seems to blend-in a little too easily with the S90XS. Other tones—especially electric violin and accordion—seem to have more separation. —**Allan Evett**, Westville, IN.

Big Rigs

Sometimes, more is more. For carting this amount of gear, we salute you.

I'm in several different bands, each of which builds on a core setup. A Latin band and a Bob Marley tribute band are large, so space onstage is a premium. For those gigs, I take a Kurzweil SP4-7 and a Hammond XK-1 run through a Ventilator. I'm also in an original jazz/hip-hop band in which I play left-hand bass, and need a much larger palette of sounds. I add an M-Audio Axiom 61 and Mac Mini/MainStage setup—I only use the SP as a controller in this setting. The Axiom controls Clav, Mellotron, and synth parts; also, I have some sound effects and noise patches triggered from the Axiom's pads. I really prefer the three-keyboard setup; Ideally, I'd take it to all my gigs. I also play in a fusion band that uses the two-board setup. Sometimes, I add my Minimoog. Sometimes, I go insane and take way too much gear to a gig, as you can see. —**New&Improv**, Corvallis, OR.

As I play exclusively in a Genesis tribute band, I need to emulate Tony Banks' use of Hammond L100, Mellotron, ARP ProSoloist, RMI [Electra-Piano] and grand pianos. I migrated to an L-shape last year and the result is:

- Top: Roland XP30 MIDI'ed to a racked ARP ProSoloist.
- Bottom: Hammond SK2 MIDI'ed to a Roland Fantom XR.
- Left L: Korg Kronos 73, also connected to Roland Fantom XR as above.

—**LosenDosKeys**, West Sussex, U.K.

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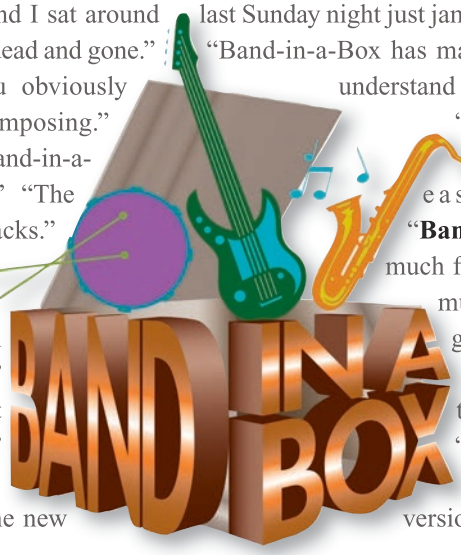

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THE ART OF SYNTH SOLOING

Holistic Lead Synth Programming

PART 2: CONCEPTS BECOME REALITY

BY JERRY KOVARSKY

LAST MONTH SOUND DESIGN MAESTRO SCOTT FRANKFURT SHARED HIS GENERAL concepts for lead synth sounds. This month we take a look at one of his sounds for Spectrasonics' powerful soft synth *Omnisphere* to see and hear how he puts these concepts into action—related by Scott in the first person. Check out the online audio examples for insight into each step of the sound design process, and to hear Scott playing the sound. Visit him online at scottfrankfurtstudio.com.

Fig. 1. The overview look at the "Grinder Lead" patch in Omnisphere.

Grinder Lead

The concept for this patch was to create a contemporary lead that will cut through aggressive music, while being interesting and inspiring. Starting with a simple sine wave, I experimented with the Hardsync slider (see Figure 2) until I found an interesting set of midrange harmonics. I think of this spot as "headquarters" for this sound. In Omnisphere there's a secondary oscillator hidden in the background so you can instantly get sync sounds without having to arrange the modulation relationship. To achieve this with other synths set up sync, or cross-mod as needed. [*Read the September and October 2012 "Art of Synth Soloing" columns for more info on oscillator sync. –Ed.*]

Modulating the Hardsync slider with velocity yielded a great sounding attack and variation for the sustain. I chose the range carefully so that the top velocity would be just as interesting as the lowest one.

The filter configuration was designed to further accentuate and focus the midrange harmonics. Bandpass and lowpass filters in parallel each provide a defined spectrum that blends nicely for an overall tone (see Figure 3). By setting them up in parallel I can blend in the amount of each filter along with the original tone for total flexibility. Note that I'm using a static set of resonance offsets (I'm not modulating the settings over time using an envelope). I'm going to get harmonic movement elsewhere: this setup is all about tone color.

The modulation wheel has a significant effect on the sound, even though the modulation range appears pretty humble (see Figure 4). That's one of the neat tricks afforded by this parallel filter setup; it is sweeping the filter cutoff for both filters, and the bandpass really 'speaks' nicely against the lowpass filter. Note that I left LFO-based vibrato out in this sound, since the concept was to really grind the midrange goodness from the mod wheel.

Fig. 2. Omnisphere has dedicated hard sync as part of the oscillator.

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Fig. 3. Two filter types are set up in parallel routing.

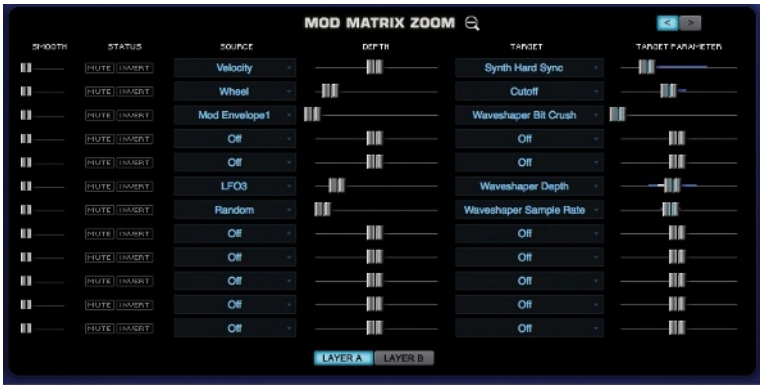

Fig. 4. The modulation matrix. Note that both filter, wave-shaping, and sample rate are being modulated to add movement and character to the sound.

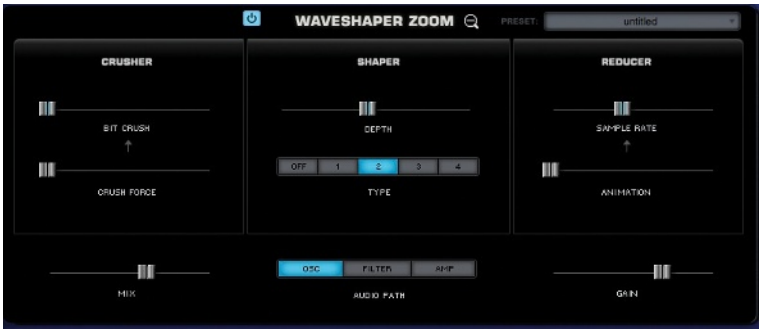

Fig. 5. The Waveshaper page is home to bit reduction (Crusher), wave-shaping (Shaper) and sample rate reduction (Reducer).

Fig. 6. Unison settings. Note the unique ability to offset the unison voices by octaves.

For the sustain portion of this patch, I'm gently shifting the harmonics over time using an LFO to modulate the wave-shaper depth. Adding in some randomization of the Sample Rate gives me a different color for every note played (see Figure 5). [*A wave-shaper is an audio effect that's is a form of distortion synthesis, modifying a waveform to produce additional sideband harmonics. It can be used subtly for tonal coloration, or more deeply to produce often aggressive and harsh tonalities. —Ed.*] If your synth doesn't offer a wave-shaper you can achieve the same varying harmonic function using parameters like saturation, distortion (in the synth engine, not an effect) or any per-voice tonal-coloring parameter your synth may offer.

To increase the overall power of the sound, I've got the Unison parameter beefing up the per-note voice count, set down an octave, with a moderate image spread (see Figure 6). You can modulate the Unison Detune for even more thickness, but I've learned that if you overdo unison tricks, you run the risk of making the sound too diffuse in context, making it less useful. I have to say, by this point I was delighted with the vibe of the patch!

Effects

I love that the "grind" of this patch is made from the synthesis engine itself and doesn't rely on a distortion effect. That's what gives it a unique character. I've employed some echo, but it's super-thin due to significant highpass filtering on the repetitions, a trick borrowed from the mixing world and discussed in last month's column. I want to hear the aural cue of the echo without cluttering the mid band. You can also achieve this thinning of the repeats via a filter or EQ on an effects return.

The Results

All of these "micro level" decisions add up to a sound that I love to play. It works well for aggressive melodic work, mono rhythmic riffs, has a laser-focused tone that won't bore you, and offers unique sonic expression capabilities from your modulation wheel. Look back to last month's column and see how it embodies all the tips I offered on creating a good lead sound. ♫

SOUNDCLOUD

Audio examples

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Four SFZ players, clockwise from lower left: Plogue Sforzando, Cakewalk Dimension Pro, RGC Audio sfz, and Camel Audio Alchemy Player.

Create Your Own Virtual Instrument

UNDERSTANDING THE FREE SFZ FILE FORMAT

BY CRAIG ANDERTON

More Online

- Free SFZ basic EB 5-String bass instrument for Plogue player.
- Free SFZ multisampled EB 5-String bass for Cakewalk Dimension Pro.
- Player downloads.
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WHAT'S FREE, CROSS-PLATFORM, AND LETS YOU CREATE YOUR OWN SAMPLE- or wavetable-based virtual instrument? The SFZ file format. Originally developed by RGC Audio (often stylized as rgc:audio) it has since provided the basis of sample libraries and instruments from Cakewalk, Camel Audio, Garritan, Impact Soundworks, PatchArena, Plogue, and many others. Free SFZ players, instruments, in-depth documentation, and even a free SFZ file editor (sfZed) are all available online. In addition to the links later in this article, internet searches yield lots of SFZ results.

Overview

Although developed years ago, the SFZ file format is gaining popularity of late. It's not tied to any particular host, and there are VST, AU, RTAS, AAX, and standalone players for 32- or 64-bit operating systems. You can also load SFZ files into instruments based on the SFZ format, like Garritan's Aria Player and Cakewalk's Dimension Pro or Rapture.

What's in an SFZ instrument? There are two components:

1. A collection of samples (WAV, AIFF, MP3, Ogg Vorbis, or FLAC; stereo or mono; 8/16/24/32-bit resolution; and any sample rate).

2. A text file that specifies how these samples behave. This file maps samples across the keyboard including splits, multisampled velocity splits, and crossfades among layers, but also offers envelopes for pitch/filter/amplifier, filter attributes, LFOs, step sequencing, MIDI controller associations, sync-to-tempo, round-robin sample triggering, key-switching, and much more. Although not all players support all SFZ functions, they support the basics and often quite a bit more.

Writing the text file can be daunting, because it's sort of like writing computer code—although SFZ files are far simpler. It's much less scary if you think of the process as simply writing down a synthesizer's front panel settings using specific abbreviations, like "ampeg_decay=2.5" for "amplitude envelope decay setting of 2.5 seconds." Of course, SFZ files end with the suffix ".sfz," which you can edit with any text editor either by specifying a particular program to open SFZ files, or by changing the suffix to ".txt" before commencing editing.

File locations are a critical aspect. The SFZ text file specifies where to find the samples; typically, you'll either have a folder and place the samples and SFZ file in it (in which case the SFZ file doesn't need to specify a folder, because it first looks in the folder where it's located) or create a folder of multisamples, perhaps with folders inside containing groups of samples and SFZ files. The SFZ files reference the folders containing relevant samples.

Free SFZ Players

There are several free players. Here are some specifics on three of them.

RGC Audio sfz. Available from Cakewalk, sfz has modest memory and CPU requirements. If you just want to load the samples from an SFZ file the same way you'd load SoundFonts, it's all you need, but the feature set has been eclipsed by the next two players.

Camel Audio Alchemy Player. This not only loads SFZ files, but can modify them with a variety of onscreen controls (their functions can differ for different presets). You can also download a bunch of free samples and instruments that show off the player's capabilities.

Plogue Sforzando. This is my preferred player for developing SFZ text files, because you can open the text editor from within the player, edit the file, save it, and the player loads any changes instantly (the other players require that you edit, save, and reload the file into the player). Sforzando also supports a wide variety of SFZ opcodes, which gives the most flexibility when writing the text file.

Instrument Creation Tutorial

I've created a free, downloadable SFZ instrument for Plogue's Sforzando player that uses a single sample from Gibson's EB 5-string bass, and stretches it across the keyboard (note that the SFZ engine has extraordinary fidelity—the higher and lower octaves are free of strange artifacts). Grab it from keyboardmag.com/june2014 and follow along.

There are two main types of commands: Region, which does the sample mapping, and Group, which affects the Regions below it (and remains in effect until the next Group command).

Let's dissect the instrument's SFZ text file; lines preceded with "//" are comments and do not affect the player. The Region command maps the sample across the keyboard by specifying the sample name (b3.wav), its pitch center, and range from low to high key. The Group commands recognize the sample's loop point and add a basic amplitude envelope. (If there were additional regions, *e.g.*, from multisampling, after the Group commands, then the Group commands would affect those as well.) With that knowledge under our belts, here's the code:

```
// SFZ Definition File
// EB 5-string bass

<group>
loop_mode=loop_sustain
// The following are amplitude
envelope parameters; decay and
release are in seconds.
ampeg_decay=1.5
ampeg_sustain=50
ampeg_release=0.05

<region>
sample=b3.wav pitch_
keycenter=B3 lokey=C0
hikey=C8
```

Now let's make this instrument much more interesting with some additional commands that affect two more layers.

```
// SFZ Definition File
// Gibson EB 5-string bass with
two additional "synth" layers

<group>
loop_mode=loop_sustain
ampeg_decay=1.5
ampeg_sustain=50
ampeg_release=.05
// Amp_veltrack defines the
velocity curve. 70 raises lower
velocities for a more compressed
feel. 100 is full dynamics,
while 1 is all notes at full
velocity.
amp_veltrack=70
// Three stages of EQ are
available, with frequency,
bandwidth, and gain. This
setting boosts the highs so the
sound cuts through a mix better.
eq3_freq=2500
eq3_bw=3
eq3_gain=9

<region>
sample=b3.wav pitch_keycenter=B3
lokey=C0 hikey=C8

// The second layer starts off
similarly to the first layer and
points to the same sample,
but then adds filtering and
other attributes.

<group>
loop_mode=loop_sustain
ampeg_decay=1.5
ampeg_sustain=50
ampeg_release=.05
amp_veltrack=90
eq3_freq=2500
eq3_bw=3
eq3_gain=9
// The next eight lines add
a 2-pole, resonant lowpass
filter with envelope to give
more of
a synth bass sound.
fil_type=lpf_2p
cutoff=100
fil_keytrack=100
resonance=12
fileg_decay=3
fileg_sustain=50
fileg_release=.05
fileg_depth=5600
// This layer is tuned flat 5
cents, and panned full left.
tune=-5
pan=-100

<region>
sample=b3.wav pitch_
keycenter=B3 lokey=C0
hikey=C8
```

There's one more group/region layer that's identical to the previous one, but with three changes:

```
tune=5
pan=100
delay=0.03
```

Tune is set to five cents sharp, pan is full right, and there's a 30-millisecond delay—all of these increase the apparent stereo width (however, this patch also works well in mono). Now all you need to do is put the b3.wav sample and SFZ text file in the same folder, and when you drag or import the SFZ file into a player, you can play the bass sound.

Text File Alternatives

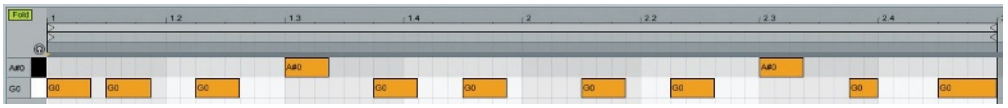
If you don't want to write a text file to edit parameters, a player like Cakewalk's Dimension Pro brings out many functions to front panel controls. However note that Dimension Pro is not an SFZ file editor, but an instrument editor. Therefore saving a Dimension Pro instrument does not add these changes to the raw SFZ file, but rather modifies the instrument settings that process the SFZ file on the fly. If you load the SFZ file in a different player, it will not reflect edits you made in Dimension Pro.

Regardless of which player you use, SFZ files provide a free way to map your samples to a keyboard, modify them, and play them back. It's easy to "reverse engineer" SFZ files if you want to learn more. Why be normal? Make your own sounds!

Improve the Groove
PART 1

BY FRANCIS PRÈVE

GREAT DANCE MUSIC IS MORE THAN JUST COOL SOUND DESIGN AND MEMORABLE riffs. While these are the elements that will make a track distinctive, the bottom line is always the groove. Nowadays, many artists are content to set their quantization and shuffle to standard values (*e.g.*, sixteenth-notes) with a touch of swing, but the real artistry lies in perfecting the groove—a great drum library isn't enough.



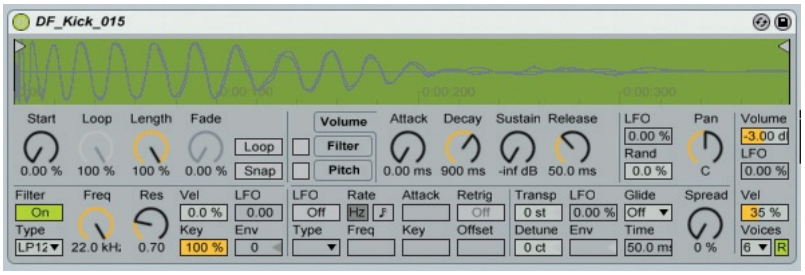
Producers like Wolfgang Gartner, Olivier Giacomotto, and Deadmau5 are slavishly devoted to beats that have real flavor and character. It's no secret that part of their success comes from the fact that they sweat *all* of the details. So this month, we'll kick off a two-part Dance column that focuses on the minutiae of perfecting your rhythmic elements.

Quantizing Note-Offs

Many producers think of quantization as a "set it and forget it" type of tool. With standard quantization settings, all of the note-ons are locked to tempo, but what about the note-offs? When it comes to perfecting the feel of a funky riff or loop, it really pays to spend some time tinkering with the ends of your MIDI events so that they fall exactly on beat.

Ableton Live includes note-off quantization as part of its preferences, but not every DAW includes this feature. If that's the case with your DAW, spend some time tinkering with the exact placement of your note-offs. You'll soon find that your grooves will have a tighter and often funkier feel.

Shorten that Kick



While certain genres—such as hip-hop, trap, and breakbeat—often rely on long boomy kicks, other genres benefit greatly from shorter kicks, since they leave more room for the bass line to breathe. A good rule of thumb for house, electro, and trance music is to keep the length of your kicks to approximately an eighth-note, either via MIDI or shortening the decay and adding a touch of compression. The trick here is keeping the kick punchy without losing the sub-bass element, so experiment with both approaches.

Russian Dragon

Drummers know that moving the instruments that hit on 2 and 4 (snares and/or handclaps in most cases) can be a powerful approach to giving a groove more intensity. In a sequencing environment, there are two easy ways to experiment with this technique. If your snare/clap parts are on a separate track, use your DAW's track delay to move the parts slightly forward or backward in time by five to 20 milliseconds, depending on the sound and feel you're after. You might be amazed at how much this affects the overall feel of your track.

Alternately, if you're working with a beatbox-style grid with all of your drum parts visible at once, temporarily turn off quantization (or snap-to-grid) and move the snare or clap slightly forward or backward in relationship to the kick. Either approach works equally well—it just depends on your DAW's features.

Pro tip: Wet and/or organic clap sounds almost always benefit from being slightly ahead of the beat, since the individual claps that make up the texture don't hit at the same time.

Next month, we'll look at more ways to make your grooves both interesting to the musical brain and compelling to the dancing body!

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ROLAND RD-800

BY RICHARD HILTON

THE RD-800 IS THE LATEST IN ROLAND'S LONG LINE OF PROFESSIONAL STAGE pianos. It follows in the footsteps of the RD-700 line, which included four models released across a dozen years: the original, then improved models with suffixes SX, GX, and NX. The RD-800 follows similar structural paths, albeit with improved sounds and a streamlined user interface meant for quick splitting and layering onstage. It has Roland's latest and greatest hammer-action keyboard. It provides a vast array of world-class pianos, electric pianos, organs, clavinets, and a host of other sampled and synthesis-based sounds, with acoustic and electric pianos using Roland's well known "SuperNatural" technology: a combination of exhaustive multisampling and modeling. Roland has also added some realtime controls that make this latest RD much more flexible and enjoyable to play. Let's dig in for a closer look and listen.

Overview

Owing in part to the action, the RD-800 weighs almost 48 pounds, and while that's not for the faint of heart, it is about ten pounds lighter than its predecessor, the RD-700NX. It feels substantial because, well, it *is* substantial. I found the keyboard feel extremely enjoyable overall. It gives you a very satisfying resistance, and felt expressive and responsive to my "piano player" hands. The RD-800 can also be used as a master keyboard for more complex setups involving external sound sources, and all of its controls send appropriate MIDI commands, which you can map to external instruments.

Roland also provides a great color display as your window into the RD-800—it's both easy to read and nice to look at. Though I have yet to put the keyboard through its paces in a bright, sunlit environ-

Snap Judgment

PROS Stellar acoustic piano sounds. Same goes for vintage electric piano and Clav sounds. Great feeling keyboard action with simulated escapement. Full drawbar control over tonewheel organ sounds. Excellent strings. Large variety of other sounds. Live Sets make for powerful yet easy sound editing and organization.

CONS Order of zone volume sliders may seem backwards at first. Tonewheel modeling mode lacks vibrato/chorus parameters.

ment, I found this display easy to see under most lighting conditions.

The front panel is very comprehensive, and if you've spent any time on the RD-700 line, it will seem familiar and yet more accessible than the previous layouts. Some of the knobs, including master volume, are nicely backlit in color, which makes them easier to find quickly. I must say I prefer a slider for volume (as on Roland's previous RD stage pianos), but I'm sure I'll get used to this quickly. You *do* get sliders for the individual layer volumes (we'll discuss layers shortly), as on most past and present Roland instruments. Besides the volume knob, there are a series of knobs for adjusting various global parameters such as reverb, EQ, delay, "tone color," modulation effects, tremolo, and amp simulation. Dedicated buttons access menus, MIDI control, and transpose, and while there are no dedicated octave shift buttons, it's not critical to have them on an 88-key instrument.

Data entry is handled by the now-familiar encoder wheel encircled by a cursor diamond of buttons. It doesn't take much practice to get to where you're flying around the screen, entering rough values with the wheel, and then getting them exact with the increment/decrement buttons.

We then find sound selection buttons for Tones and Live Sets. Overall, the panel is clean and uncluttered, One quibble is the placement of the Split button at far right of the panel; I would have preferred it to be positioned for a quick left-hand tap. Spacing between controls is good, which reduces errors when performing under changing stage lights.

Sound Selection

A well-designed electronic instrument should address the needs of both the musician who just wants to select individual sounds and play them, as well as those who want to delve deeper and create more complex multitimbral setups. The RD-800 delivers on both counts. There are lots of parameters to adjust in the "Tone Designer" mode, but there are limits—this is a stage piano with a focus on ease of use, not a full-on synthesizer.

That said, I find it very functional and easy to get around, and have not yet come across a musical situation I couldn't address with the available parameter set. The Tone Color knob deserves special mention, as it varies a "macro" of parameters appropriate to whatever sound you're currently playing—varying an electric piano patch from very dark to bell-like and tiney, for example.

You can easily select sounds, assign effects and realtime controls to them, adjust their envelopes in some cases and their EQ individually, as well as route them into a rather nice effects processor. You can split and/or layer sounds across the keyboard, up to four of them at a time. Once you've done that, you can adjust their individual levels and access the individual component sounds for editing easily from the panel while playing. You can save all of these into 200 locations called Live Sets (four-way multis) and recall them easily. One curious design choice: the layer volume sliders and their zone on/off buttons are organized, left to right: lower, then upper layers 3, 2, and 1. This makes sense in that the sliders are closest to the key zones they're actually controlling, but can take some getting used to. Top to bottom on the display (*i.e.*, the Tone names in a Live Set) corresponds to *right to left* on the sliders.

The Tones are organized in sound categories familiar to us all: acoustic pianos ("concert" and "studio," as in grand and upright), electric pianos ("vintage" and "modern," as in Rhodes and Wurly versus DX-style), Clavinets, organs, strings, pads, basses, and other various sounds grouped under the Other button. The OS offers more category and Tone options once you're using the screen to view the patch lists, which makes finding "that particular harpsichord" that much quicker. Once selected, tones can be easily stored on the category buttons as assigned sounds for those buttons, so all of your favorite variations can be easily available on the buttons in real time.

Sounds

The piano sounds are clearly the main focus of this instrument, and I found them excellent sounding and very enjoyable to play. A wide variety of tonal qualities are provided, and without exception, the sounds are well rendered and, to my ears, loop-free. Additionally, there are numerous adjustable parameters unique to the piano section, such as nuance, damper noise, string resonance, key-off resonance, hammer noise, and some broader categories like "character" and "sound lift," the latter of which is meant to give the piano sound a tighter "focus" for taking a solo without your having to turn the volume way up. All of these tweaks can be stored as part of a Live Set, letting you customize the pianos to your lik-

Balanced XLR outs (as well as 1/4″) are a welcome professional touch, and a 1/8″ stereo audio input pipes backing tracks or break music from a music player to the main audio outs, saving a mixer channel. A MIDI thru that can double as a second MIDI out increases the RD's flexibility as a master controller, and you get a full complement of switch and continuous pedal inputs. There are both types of USB ports: one for computer connection and the other for flash drives and WiFi dongles.

ing. However, I found the factory settings to be so good that I didn't need to spend time modifying them.

Tonewheel organ sounds allow control over all nine drawbar frequencies (four at a time, via the sliders), accessing an engine derived from Roland's VR series—an unexpected addition on a "straight" stage piano. Harmonic percussion is fully adjustable and triggers correctly. The organ sounds are uniformly excellent and quite usable and the rotary simulation is very good. Not that I'd sell my Hammond and Leslie, for the few moments in our show where I require organ sounds, the RD-800's are quite sufficient. I'm admittedly coming from more of a pianist background than anywhere else.

As I've habitually used Roland stage pianos onstage to generate string sounds, the string library in the RD-800 was of great interest. The RD-800 provides a large variety of string tones, with some good timbral variety available on the Tone Color knob for each. There's a lot to choose from here, with both section and solo strings well represented. Both "real" strings and those intended to sound synthesized sounded great and were uniformly playable.

The rest of the tones available in the instrument are, by and large, very well recorded and rendered, and extremely useful and versatile. Because of the sheer number, I won't go through them all, but suffice to say there's a lot to like here and very little fluff.

More Features

As mentioned before, the RD-800 stores up to four user-edited Tones as an object called a Live Set. (Accessed via MIDI, the RD *is* 16-part multitimbral.) Here is where the deeper power of the instrument is revealed. One can easily assign sounds to different keyboard zones. One can add and route effects, adjust volume and panning, and so on. This is also the level at which modified single Tones get stored. A dedicated row of Live Set buttons right above the Tone buttons lets you organize and recall your Live Sets quickly, in ten banks of 20 Live Sets each. Having used previous RD models a lot, I found the increased flexibility this provided to be a welcome addition—especially for creating and ordering set lists for shows.

Like its predecessors the RD-800 allows for storing patch data to USB flash drives as well as its internal memory. This is a great feature for those of us who tour using rental gear, as I can show up at the gig with just a flash drive and have my whole show loaded into an RD instrument in seconds. You can save and load Live Sets individually, or all in one go.

A Rhythm/Song area features over 180 drum patterns. The patterns do make a nice starting place for songwriting and piano practice, though it is hard for me to imagine using them for, say, an entire solo gig.

Another aspect of the RD-800 is the Audio Record feature. Here, one can record full performances as a 16-bit, 44.1kHz WAV file straight to a USB flash drive, and then have playback of the audio start and stop by striking a key. One can also use external audio for this purpose. I've used this in the RD-700 series and found it to be very convenient and easy to control onstage.

In the system parameters, one can adjust things such as overall tuning, pedal settings, tuning temperaments (including equal, just major, just minor, Pythagorean, Kirnberger, mean tone, Werckmeister, and Arabic), which layers in a Live Set respond to MIDI (crucial for playing a multi where you want the sustain pedal to affect some sounds but not others), and more. System settings can be saved internally. There's also a multi-band system compressor just upstream of the main audio outs. Among other things, this can act as "volume insurance" if you bring up a Live Set whose tones have unexpectedly high entry volumes.

You can connect a USB WiFi dongle (not included; Roland specifies their WNA-1100RL model) to USB type A port, and in conjunction with a WiFi router (also not included), use the RD-800 with wireless-compatible iOS apps. So far, this is just Roland's Air Recorder app, but given how deep you can get programming Live Sets, we'd love to see an iOS-based editor/librarian for the RD-800 in the future. If you're not near an open router, the RD also supports ad-hoc networking.

Conclusions

The Roland RD-800 is an excellent and thoroughly professional digital piano for stage and studio. The keyboard feels solid without being fatiguing to play, and the huge complement of sounds is uniformly excellent. There are ample editing features to personalize your sound as much as you'd want, but the architecture is well designed in that it's never too complicated to get back to where you *were*. Thinking in terms of Live Sets may be new if you're used to how stage pianos have worked in the past, but they're easy to master and will become essential to your gigging workflow once you realize their power. The four total pedal inputs and available dual MIDI outs speak to its seriousness as a master keyboard as well. All in all, the RD-800 is musical instrument at the top of its class. ♫

Richard Hilton is the touring keyboardist with Nile Rodgers and Chic.

Bottom Line

A must-audition if you're in the market for a high-end stage piano.

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In-depth video overview of the RD-800.

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ROB PAPEN
Blue II

BY JIM AIKIN

I'M IN DANGER OF LOSING MY CREDIBILITY AS A GROUCH. TOO MANY OF THE soft synths I'm reviewing these days are just fantastic! Case in point: Blue II, from Rob Papen. Blue II is not perfect, but even so, I couldn't find much to gripe about. The original version, released in 2005, was already a powerhouse. The upgrade to Blue II (which we'll just call Blue in this review) adds massive new capabilities: double the number of filter modes, double the number of effect types (and four effects modules rather than two), new oscillator controls, a new X/Y modulation source, and more.

Snap Judgment

PROS Great presets. Two filters. Lots of waveforms, signal routing options, and modulation routings. Plenty of filter modes and effect types. Recordable X/Y modulation. Step sequencer and arpeggiator.

CONS No user sample loading. Only one key-scaling curve. Modulation sequencers don't sync properly.

Overview

Blue's sound engine serves up six oscillators and two filters. The oscillators can be routed into an FM matrix for old-school DX7-style synthesis, or through the filters for analog-style subtractive synthesis—or you can use both synthesis types in a single patch. For each oscillator, you can choose from a menu containing well over 100 waveforms, including lots of percussion samples. The one thing you can't do is load your own samples.

The interface is clean and easy to navigate. In the main editing page, the oscillator and filter knobs and menus are in the upper part of the panel, while the lower panel (the blue one) has pages for envelopes, LFOs, modulation routings, and so on. All of the knobs and sliders reset to default values when you double-click, and an Easy page gives you quick access to global settings for things like LFO speed and FM amount. The PDF manual is launched directly from a Help button on Blue's panel, a small but welcome feature.

The patch browser has been redesigned along the lines of Papen's Predator synth, with 128 patches per bank instead of the 32 per bank in Blue I. There are way too many great patches in the factory set even to begin to describe them. The bank names include both digital and analog basses, pads, arpeggiator sounds, tempo-based (though non-arpeggiated) sounds, chord clusters, leads, percussion, hip-hop/R&B, and a number of more creative banks from individual sound designers.

Fig. 1. Blue's X/Y modulation source can record your realtime mouse moves, or use presets such as this spiral. Individual points can then be edited. The 16 output routings can be soloed or muted.

The global controls include a one-finger chord mode with a Learn command, detuned layering of up to six voices per key, and the ability to load alternate tuning files in the Scala TUN format.

Oscillators

Blue's legacy as a six-operator FM synth can be seen in the fact that in addition to the semitone and fine-tuning knobs, it has a tuning ratio menu for each oscillator. This is less useful than it might be, as the ratios given are not related to the fundamental as simple whole-number harmonic fractions such as 1.75. The settings between 1.00 and 2.00, for example, are 1.41, 1.57, and 1.73.

Also part of the FM legacy: Each oscillator has its own ADSR amplitude envelope, a feedback knob so it can modulate itself, and an on/off tracking switch. Using a fixed pitch for an oscillator and setting it to a very low frequency is a standard FM programming technique, but in Blue it doesn't quite work, as the lowest frequency you can set an oscillator to is about 6Hz.

Each oscillator has a sub-octave amount knob, which can produce either a sine or a square wave. A spread knob produces two detuned signals. A drift knob introduces slow, barely detectable pitch changes, which can be very useful not only for emulating vintage analog gear but for adding a little life to FM patches. Pulse width modulation (from a dedicated LFO) can be applied not just to the square wave but also to any wave. With samples, the results are generally weird and not useful, but maybe "weird and not useful" is what you're looking for. A Symmetry knob "tilts" the waveform, for example, turning a triangle wave gradually into a sawtooth.

When you twiddle the Shape knob on a default patch, it seems at first not to do anything. To get waveshaping, you need to drop down to the lower panel and do a bit of graphic editing to the shaper curve. Oscillators can be hard-synced to Oscillator A for the classic analog sync sound, but for some reason sync is disabled when you choose the more flexible Matrix option for the six-oscillator algorithm configuration.

Speaking of algorithms, in the "Alg" page in the lower panel you can choose either one of the 32 classic DX7 algorithms (by clicking the Alg button within the Alg page) or a more flexible Matrix routing, in which any oscillator can modulate any other in any amount. The oscillators' output volume knobs and individual envelopes interact in a straightforward way with the amounts in the Matrix. In addition, you can choose either PM (phase modulation) or FM. The two are similar, but different for technical reasons. When you choose FM, the oscillator output has to be cranked much higher before you'll hear any change in the timbre.

Filters

Blue's two filters can operate in either series or parallel routing mode, and the two filters are identical. The output of each oscillator in Blue can be routed to filter A, filter B, both filters, or to any of the effects (bypassing the filters). The filters' outputs can be routed to any of the four effects individually, to effects A and B, to effects C and D, or to all effects in parallel.

The filters have 28 modes, starting with the expected lowpass, bandpass, and highpass choices, with various cutoff slopes. Comb filtering, formant filtering, and ring modulation are also in the menu. Curiously, there are eight filter modes (the ones whose names end with "2"—for instance, 12 LP2) that aren't explained in the manual. They sound different; that's all the information I got from the manufacturer.

The controls include frequency and Q (resonance) knobs, plus dedicated knobs for envelope amount, velocity sensing, key tracking, mod-wheel-to-frequency, panning, and output volume. There's also a distortion knob, but in spite of the marketing terminology in the manual ("analogue modeled filters"), the distortion sounds very digital. Even with maximum Q and distortion settings, these filters don't bark or squawk the way the filters on my analog modular synth do.

Modulation

Blue has a generous 14 LFOs, with the usual basic wave shapes (including random sample-and-hold). Waveform symmetry, ramp up and down times, frequency humanize, frequency key tracking, output smoothing, start phase, and other parameters are provided. Ten of the LFOs have "hardwired" outputs for vibrato, tremolo, filter modulation, and so forth, but all of them can be used for other purposes if desired.

Four looping multi-segment envelopes are included in Blue. Each can have up to 16 segments, with individual control of the curvature of each segment. The overall speed of these envelopes can be both edited and modulated, making it easy to use them as complex LFOs. The graphic editing is not perfect. First, there's no way to drag a given envelope point left or right and drag all of the later points (those to the right of it) along for the ride—a fairly standard editing feature with multi-segment envelopes. Second, while the envelopes can nominally be synced to the host transport clock, all the sync button really does is introduce a graphic grid to the editing window—and the envelope points don't snap to the grid. Nor are the rhythmic values of the grid labeled. In sum, the multi-segment envelopes are certainly useful, but they could be improved.

The X/Y modulation source, on the other hand, is stellar. The two-dimensional envelope has up to 128 points. As Figure 1 shows, you can choose a preset shape such as a diagonal or spiral. Also, you can record your mouse moves in real time to create

Fig. 2. The four effect modules can be configured in series, parallel, or various other ways. All have volume, mix, and pan knobs on the left, but the other parameters vary depending on the effect chosen.

a custom shape. The points can then be dragged around or snapped to a graphic grid. Playback location can be looped and quantized to the host tempo. The 16 output routings (eight each for the X and Y directions) are independent of the main modulation routing matrix.

Velocity and keyboard tracking curves are on tap. One important difference between Blue and old-school FM synthesis is that Blue has only one global key tracking curve, not one per oscillator.

The modulation routing matrix itself is simple and easy to use. There are 20 routing slots. For each, you choose a source, an amount, and a destination. A handy mute button is also provided for each routing. Modulation slot amounts are available as destinations, as are all of the amounts in the FM matrix. Numerous MIDI sources are provided, including release velocity and poly aftertouch.

Sequencer and Arpeggiator

The sequencer and arpeggiator are mutually exclusive; you can't run both at once. Each has 32 steps (twice the length of the same modules in Blue I). In addition, there are three modulation-only sequencers, which *will* run in conjunction with the arpeggiator or step sequencer. More or less in conjunction, that is—due to a bug, the mod sequencers gradually drift out of sync with the sequencer and arpeggiator. (I've reported this bug. Hopefully it will be fixed in the next update.)

The step sequencer has a few neat tricks up its sleeve. Each step can be assigned a different waveform for each oscillator, for some massively funky percussion rhythms. It has to be said, though, that the editing of waveforms per step is clunky: If you want a waveform that's well down in the menu, you have to click on a tiny "+" sign dozens or hundreds of times to get to it.

Each step has four modulation outputs: velocity, a "free" value that can be used in the mod routing matrix, and two outputs hard-wired to filter A and B cutoff. A pitch slide can be applied to any step. Individual steps can be "tied" to a previous step, but the tie applies only to retriggering of envelopes: Other settings of the tied step, such as pitch and waveform, are still used. If you want the two or more steps to be truly a single longer note, just program them with the same values and then tie them.

The arpeggiator is also well designed. Each of the 32 steps can have its own on/off toggle, transposition, velocity, note length, and "free" modulation output amount, as well as a pitch slide and envelope tie. The swing slider makes every other note longer or shorter — and because you can also choose the basic rhythm value, switching from eighth-note swing to sixteenth-note swing is a no-brainer. A gate length slider, if active, overrides the individual note lengths of the steps. I was hoping this slider could be assigned as a destination in the modulation matrix, but it can't be. Also, the arpeggiator's direction menu has a bug: The up and down choices actually choose the played order (forward or backward) options, and vice-versa. According to the manufacturer, this is a design flaw of long standing, and for compatibility reasons it won't be changed.

Effects

Blue serves up a mouth-watering set of 35 effect algorithms, including both the standard items (chorus, stereo delay, and so on) and a few that are less common but always nice to see (comb filter, gator, bass boost, lo-fi, auto-wah, amp simulator, and so on). The high-quality (HQ) reverb uses a bit more DSP than the standard reverb, but it sounds great. There's no fully parametric EQ, but you can choose a five-band graphic or low/high shelving.

Four effects are on tap at once (see Figure 2), and you can choose one of eight different signal paths, not just series and parallel but things like "(A + B) > C > D," which means A and B are parallel and their output then feeds C and D in series. When you factor in the ability to route the output of any oscillator or filter to any effect, this setup gives you an enormous range of sound design possibilities.

Each effect module has two modulation inputs. Controlling a comb filter's frequencies from two slow LFOs sounds wonderful.

Conclusions

It's clear that Blue II is going to become one of my favorite software instruments. It has a powerful and versatile sound, as the hundreds of top-quality factory presets prove, and the features for massaging the presets are both deep and easy to use. It would be nice to see a couple of refinements in the mod sequencer and multi-segment envelopes, but there's plenty here right now to keep any computer-savvy musician in a state of bliss. ♫

Bottom Line

A serious soft synth, whether you're seeking virtual analog fatness or FM sparkle.

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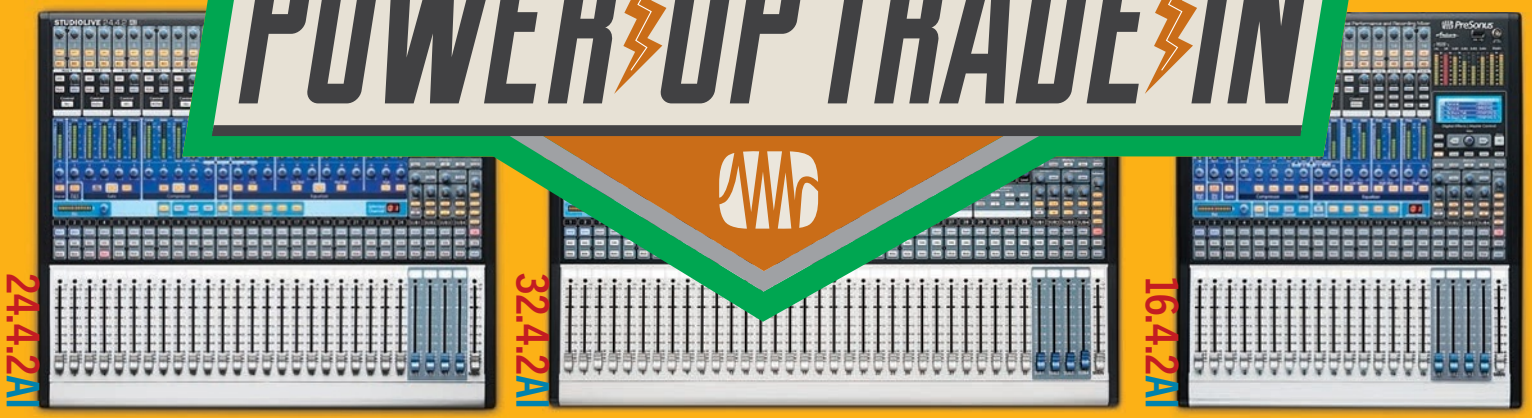

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ACOUSTIC IMAGE Flex

BY RICHARD LEITER

On the back of the Flex Pre, you'll find separate mono outs and effects loops for each input channel. True stereo output is also achievable by setting a jumper inside the unit.

ON SO MANY GIGS, I'VE WISHED THAT I could place my amp controls on the keyboard and dial in perfect EQ and levels without crawling around with an iPhone flashlight app. I'm not alone. Acoustic Image's new Flex system detaches the preamp section from the amplified cabinet and puts it into a sleek panel that sits comfortably on all but the smallest keyboards, or magnetically clamps to the cabinet. The Flex Pre integrates via Ethernet and audio cables with the Flex Cabs: high-end powered speakers originally built for bass, but now re-engineered and marketed as an high-end compact P.A. solution. They're handsome, light, and have the cachet of an upscale sports car. Do we desire them? Yes! Do we *need* them? Read on. . . .

Acoustic Image has built its deserved reputation on some unique design twists and a commitment to quality congruent with professional budgets. Their new Flex Cab is the size and weight of the smallest keyboard cubes but packs two 10" woofers and a tweeter. One woofer fires forward and one fires *downward*. Each is driven by a separate 300W power amp; a dedicated 50W amp powers the tweeter. You'd think that all these speakers crammed into a cab not much bigger than a breadbox, and with one firing at the floor, would sound mushy and boomy—but you'd be wrong. The Flex amplifies with a grace and transparency that belies its demure stature.

The detachable two-channel preamp has controls to swoon over: four bands of EQ and a sweepable low-cut filter, phase flip, reverb, delay, an amp-protecting limiter, 48V phantom power for the XLR mic inputs, and an XLR direct out (with ground lift, thank you) that provides a mono mix of both channels.

Any bass patch you put through this system sounds accurate, loud, and pure. In fact, no amount of knob-twirling can make a bass preset sound bad. Vocals sound warm, natural, and present. Organs and many synth patches? More than acceptable.

The one category I couldn't EQ to my satisfaction was acoustic piano. With all the keyboards I tried—Casio Privia PX-350 and PX-5S, Roland VR-09, and Yamaha P-120—the high-mids in the octave above middle *C* sounded overemphasized. The sound was uncolored when I used the Flex Pre to drive Yamaha DXR10 powered speakers, suggesting the Flex Cab was causing the frequency bump.

Editor Stephen Fortner felt differently when he used the Flex system on a couple of casual cover band gigs. "For being in a mix with three horns and two guitarists, that frequency bump was beneficial," he commented, "especially when I needed to take that solo on 'Conga' by Miami Sound Machine."

I wound up using the Flex Cab and Pre on a gig for vocals, and it was wonderful. They came through strong and clear.

For the price of a Flex system, you can own a pair of powered stage speakers and have money left over for a good mixer. Still, there's something enchanting about this Acoustic Image gear. I loved having the Flex Pre at arm's reach and swooned over the feather weight, overall sound quality, and build. If Acoustic Image could provide a preamp with more onboard stereo mixing and channel routing, they'll have a setup that many keyboard players will covet as the Bentley of compact combo amps.

Snap Judgment

PROS Effortless, uncolored, amplification of bass frequencies, synth patches, and vocals. Lightweight and ultra-compact. Separate preamp/direct out for on-the-fly sound-shaping.

CONS On the expensive side compared to many keyboard amp alternatives.

Bottom Line

Proof that the potential exists for keyboardists to enjoy the same kind of audiophile, lightweight amplification that acoustic bass players have had for years.

Flex Pre: $599 street | Flex Cab: $1,399 street
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REALITONE
RealiBanjo

BY RICHARD LEITER

LIKE RODNEY DANGERFIELD, THE BANJO GETS NO RESPECT. BUT IT'S TURNING up in more and more popular genres. You hear its rhythmic propulsion all over modern country, which along with folk, has been hybridizing with modern rock. Soon we'll all be Mumford-ized. The problem with most sampled banjos is that they're hard to play convincingly without effects like slides, mutes, and realistic patterns. Who has time to figure all that out? RealiTone did, and they offer it up for less than the price of a cheap seat at the Grand Ole Opry.

RealiBanjo is about the simplest virtual instrument I've used, and therein lies its power. You get three octaves of well-recorded, dual-sampled banjo notes, both soft-ish (the banjo is never really tender) and intense. This would suffice for many uses, but each note also has a slide sample—which you can trigger automatically (Auto Legato) or with a key-switch—and a muted sound, which you can also toggle with a key-switch or a GUI lever. Good old step recording will let you sound enough like a Nashville journeyman to get by in the background.

But here's where RealiBanjo shines: Your top two octaves trigger chords that are instantly translated into one of six very idiomatic banjo patterns that sync to your DAW's tempo. (More about this next paragraph.) You can also dial in a couple of seconds of a natural sounding room/stage reverb if you wish, and there's a cute hillbilly-and-his-dog animation that will delight small studio visitors. [*As long as he doesn't play the "Dueling Banjos" lick unbidden. —Ed.*]

Pattern Mode is just fantastic, as it lets you *play* the banjo—sort of. Just finger a three- or four-note chord in the top two octaves, and you'll hear a two-bar sixteenth-note pattern that will fool a listener's ears for about four bars. By that time you'll be on to another chord or pattern. The six patterns—banjo players call them *rolls*—come in varying levels of twang and complexity, and none are duds. You should be able to mix and match to support verse/chorus contrast or whatever other arranging tricks you're after. Be advised, some non-standard chords just don't play: diminished, augmented, or major sevenths need not apply. However, you get a full assortment of major and minor triads with dominant sevenths and suspended seconds and fourths. You can even fake a half-diminished seventh if you're sly.

It's very inspiring to finger those chords and see what you come up with, because the unusual passing tones that make up an authentic banjo roll are little harmonic surprises. The bottom octave of the keyboard lets you slide up and down the fretboard to take the banjo's tone from dark to an exciting, open sound. The only tricky technique is hitting the chords precisely. If you're a little off, the pattern stops triggering for a couple of beats.

When you skip the Pattern Mode and trust your internal banjo-on-a-keyboard player, you'll probably want to engage Auto Legato (which intuitively inserts slides to the next note) and use the mute articulation key judiciously. Take my word for it: Soon you'll wind up back in Pattern Mode pretending you're Earl Scruggs.

What a joy this thing is. Beyond the obvious country and indie folk rock applications, I can't wait to try it on over a tough urban groove, a jazz tune, or a swirling, moody pad. I'm sure it's going to take me places I'd never thought I'd go at a price that I never thought I'd see—and at press time, it was on sale for even less: $29. A big "yee-haw"—and a Key Buy Award—to RealiTone.

Snap Judgment

PROS Three octaves of realistic banjo samples—open strings and mute. Six authentic pattern styles. Multiple fret positions. Nearly instantaneous mastery. Charming animation.

CONS Glitch-free pattern playing demands a precise touch. Requires full version of Native Instruments Kontakt soft sampler, not the free Kontakt Player.

Bottom Line

An easy, impossibly affordable way to get a great-sounding banjo on your track. This gets our vote for quirky bang-for-buck buy of the year!

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WALDORF Nave

BY FRANCIS PRÈVE

I'VE BEEN A FAN OF TEMPO RUBATO'S NLog iPad synth for several years now, so I was expecting big things from Waldorf's collaboration with Rolf Wöhrmann (the designer of NLog), especially considering that they also enlisted the brainpower of Axel Hartmann, designer of the near-mythical Neuron digital hardware synth from 2003. With a pedigree like that, I anticipated that Waldorf's new iOS wavetable synth Nave would knock my socks off, and that's exactly what it did.

The core of Nave is a pair of wavetable oscillators with one of the best visual interfaces I've ever seen. Imagine a fully rotating, Fourier-style, 3-D view of the wavetable that clearly displays each slice as you scan through the waves, then multiply that by two, and you've got the general idea. Each wavetable can be further modified with aptly named parameters like "noisy" and "brilliance." What's more, every wavetable includes built-in forward and backward scanning via an integrated LFO. In addition, you can apply one of Nave's many modulation tools for more customized animation.

If the 80 or so factory wavetables aren't enough for your sonic endeavors, you can import your own WAV files and have Nave scan them. There's also a remarkable speech synthesizer that will take any *typed* phrase and convert it into a Nave wavetable (Navetable?) that recites the phrase as you scan the wavetable. The result sounds like a cross between turntable scratching and Daft Punk robot voices, and gives Nave an unheard of level of flexibility in this area.

In addition to the dual wavetable oscillators, Nave includes an "Uberwave" feature that blends in a supersaw-inspired oscillator with selectable waveform and up to eight detuned instances, which is perfect for festival-ready EDM leads.

Nave's filtering tools are beautifully designed as well, with lowpass, highpass, and bandpass options combined with two- and four-pole slope options. The filters are solid and sound more digital than analog, but in context that pairs well with the oscillators' character. There's also a drive module with five distortion options that can be placed either pre- or post-filter, which is a nice touch.

Nave's modulation section includes the same attention to detail, with three envelopes, two LFOs, and an array of MIDI and iOS performance tools. The filter and amp envelopes are especially nice, with selectable curves for each segment, making sharp transients a breeze to whip up.

Rounding out the sound design tools are five simultaneous effects including EQ, compression, reverb, delay, and a modulation effect for chorus, flange, and phase. There's also a capable arpeggiator included for trance fans.

As if all of that weren't enough, Nave includes a four-track recorder for composing on the go. While these tools aren't quite enough to create a fully produced track, it's a great way to experiment with Nave's features, and then transfer the best results back to your computer for further development in your DAW.

It's astonishing how rapidly the iOS app scene has evolved, with ever more complex synthesis tools, thanks to the processing power of Apple's most recent iPad models. With Nave, Waldorf has cross-bred their legendary Wave with elements of Axel Hartmann's Neuron to deliver a digital synth that goes far beyond most iPad synth apps and is an absolute joy to program.

Snap Judgment

PROS Best-of-breed wavetable synthesis. Ability to create new wavetables via WAV import and speech synthesis. Extremely flexible envelopes. Integrated effects. Four-track audio recording.

CONS Preset management could be a bit smoother. Requires iOS 6 or newer.

Bottom Line

The current benchmark for wavetable synthesis in iOS.

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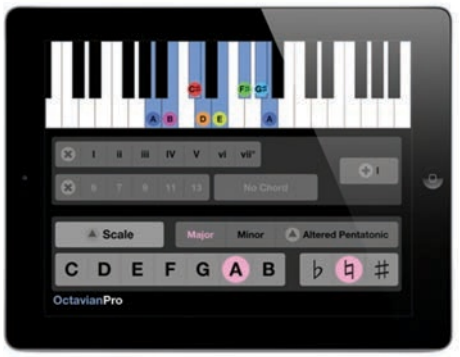

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PHOTOS BY TINA GUO

5 THINGS I'VE LEARNED ABOUT Accuracy in Playing

BY GREG PHILLINGANES

I'VE BEEN TOLD THAT I PLAY WITH A GREAT DEAL OF ACCURACY. *IF* THAT'S the case, it's because of two main factors that have greatly influenced my musical approach. The first was studying during my teenage years under the tutelage of Mischa Kottler, the former master pianist with the Detroit Symphony Orchestra. He was a strict Ukrainian who had no problem setting me straight on all matters classical. His approach to playing with accuracy involved the use of a good, old-fashioned metronome—no mystery there. The second factor has to do with my years as a studio musician, for which I'll be forever grateful. Learning how to play with stability (regardless of groove, tempo, or genre) while making records was a priceless experience. Here are five things I've learned about playing and performing with accuracy.

1. Practice = Slow and Precise

There's just no getting around it: Practicing slow and steady with a metronome is the only way to make your playing eventually become fast and impressive. When practicing playing bass lines or intricate passages with both hands, use the space *between* what you're playing to keep your time solid. Music is much more enjoyable when the audience can understand what you're playing.

2. Don't Assume—Listen

My biggest pet peeve is when musicians play what they *think* something is as opposed to what it really is. I've been blessed with good ears, but today's technology has made it easier than ever for musicians to replicate what they're hearing. Take advantage of all of your listening options, especially for more difficult pieces. Software lets you slow things down, isolate a track from the mix, and much more. And if you're listening to something simpler, don't just assume you've "got it." Pay close attention until you master the music at hand.

3. It's All About Voicings

Voicings are a situation where the devil really is in the details. A simple example would be a tune like Bob James' "Westchester Lady." That two-voiced melody is *E-A*, *F-C*, *C-E*, *E-A*, and *D-F*. If you're not paying close attention, it would be easy to assume it's *E-G*, *F-A*, *C-E*, *E-G*, and *D-F*. Also, when you listen to a harmonized melody, focus on the *lower* harmony. It'll help with your ear training.

4. Groove Loves Company

After you've listened until you're blue in the face, go jam with other musicians. Learning how to groove with others is paramount to getting your time together. Building a more accurate groove is like making love—it's a lot more effective when doing it with company!

"If you happened to see *The Beatles: The Night that Changed America*, I was the Black guy with the huge grin on his face! Without question, that was one of the top three highlights of my entire career," says Los Angeles-based keyboardist **Greg Phillinganes**, who has played with everyone from Stevie Wonder, Michael Jackson, and Donald Fagen, to Eric Clapton, Toto and beyond. Phillinganes was also musical director for the PBS *In Performance at the White House episode* celebrating "Women Of Soul," featuring Patti LaBelle, Jill Scott, Melissa Etheridge, Janelle Monae, Ariana Grande, and of course, Aretha Franklin.

5. Don't Skip the Stock Sounds

When duplicating sound design from recordings, (usually in preparation for live events), I often go with stock keyboard presets. My belief is, it's 2014, so if I can't find what I need in the box, it's probably not a very good keyboard! I can't tell you how many times I've shocked musicians when they realize I'm using sounds that are already in the patch library. Today's instruments offer a gargantuan selection of sounds, so explore them until you find the right one. Then, if necessary, get a second opinion to keep you on the right track.

Greg talks about meeting Stevie Wonder for the first time, in *Down the Rhodes*.

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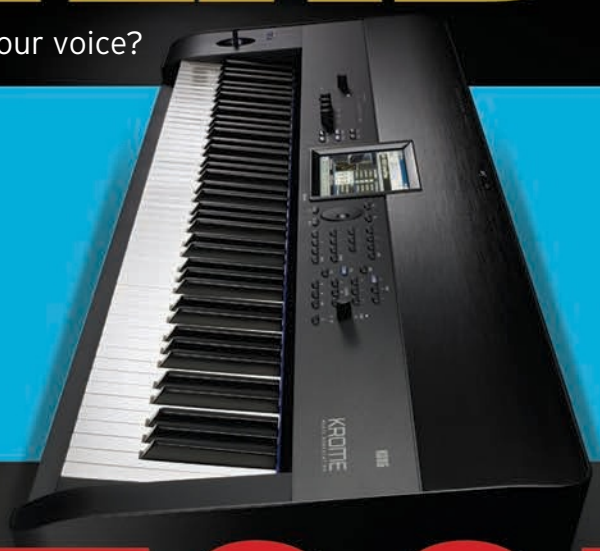

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